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RELEASE INVESTIGATION


**Coopers Cove Petroleum Release
Hardy, Virginia 24101
PC #2024-2089**

Prepared for:

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1.0 INTRODUCTION AND SITE HISTORY

On November 2, 2023, Total Environmental Concepts, Inc. (TEC) received a call from the Virginia Department of Environmental Quality (DEQ) Blue Ridge Regional Office (BRRO) regarding a report of a petroleum odor in a residential supply well located at 1556 Coopers Cove Road in Hardy (Franklin County), Virginia. The homeowner initially contracted Culligan Water to install a water softener system. During initial testing, Culligan technicians noted a petroleum odor in the groundwater. After Culligan confirmed the presence of petroleum on-site, DEQ was alerted, and Pollution Complaint (PC) Number 2024-2089 was opened under the State Lead Program. Mr. David Kirby, DEQ BRRO case manager, tasked TEC with conducting a Release Investigation (RI). An RI is typically an initial phase of study designed to identify a potential source (or sources) of a petroleum release. Once the source or sources have been identified, DEQ will require subsequent and more extensive investigation phases to mitigate and/or remediate the petroleum impact.

1.1 LOCATION AND DESCRIPTION

The area of Franklin County, Virginia, where the petroleum release was originally reported, is primarily residential and agricultural. According to the United States Geological Survey (USGS) 1963 Hardy, Virginia 7.5 Minute Quadrangle Map the approximate land surface elevation is 1,100 feet above mean sea level (msl) (see Figure 1). The topography of the surrounding area is relatively mountainous with a gentle slope from the north to south. Prater Creek is located approximately 875 feet from the original property that was sampled and runs from the southwest to the northeast, where it empties into the Roanoke River.

2.0 INITIAL SAMPLING EVENT AND SITE VISITS

After Culligan confirmed the presence of petroleum in the supply well located at 1556 Coopers Cove Road, TEC personnel visited the property to collect a confirmatory groundwater sample for analysis and meet with neighboring property owners. A signed site access agreement was obtained for the sampling event and any future work requested at 1556 Coopers Cove Road. The site access agreement is available in Appendix A.

2.1 CONFIRMATORY SUPPLY WELL SAMPLING EVENT (11/6/2023)

On November 6, 2023, TEC visited the property at 1556 Coopers Cove Road and allowed the supply well to purge for approximately 15 minutes prior to collecting a sample. Per homeowner information, the drilled supply well extends to a depth of approximately 193 feet below ground surface (bgs). An overt petroleum odor via olfactory senses was noted during flushing. The samples were collected in laboratory-provided glassware from an unfiltered faucet in the basement, placed on ice, and taken to Enthalpy Analytical in Richmond, Virginia, for analysis of volatile organic compounds (VOCs) via Environmental Protection Agency (EPA) Method 8260D and semi-volatile organic compounds (SVOCs) via EPA Method 8270E under a three-day turnaround time (TAT).

2.1.1 Groundwater Sample Results (11/6/2023)

Multiple dissolved-phase hydrocarbons (DPH) and other constituents of concern were reported in the groundwater samples collected from the supply well, including benzene, toluene, ethylbenzene, and xylenes (BTEX) level of 1,657 micrograms per liter ($\mu\text{g/L}$), methyl tert-butyl ether (MTBE) level of 6,500 $\mu\text{g/L}$, naphthalene (93.9 $\mu\text{g/L}$), 1,2,4-Trimethylbenzene (296 $\mu\text{g/L}$), 1,3,5-Trimethylbenzene (133 $\mu\text{g/L}$), 2-Butanone (MEK) level of 13.6 $\mu\text{g/L}$, 2-Hexanone (MBK) level of 13.3 $\mu\text{g/L}$, 4-Isopropyltoluene (1.72 $\mu\text{g/L}$), acetone (29.2 $\mu\text{g/L}$), Di-isopropyl ether (DIPE) level of 17.3 $\mu\text{g/L}$, isopropyl benzene (21.9 $\mu\text{g/L}$), n-Butyl benzene (4.69 $\mu\text{g/L}$), n-Propyl benzene (41 $\mu\text{g/L}$), and sec-Butyl benzene (104 $\mu\text{g/L}$). The results were relayed to the DEQ, and a carbon filtration unit (CFU) system was subsequently installed at the property by DEQ contractors, Culligan/Stoner Water Quality. A copy of the analytical report and chain of custody documentation is available in Appendix B. A summary of the analytical data is available in Table 1.

2.2 SITE VISIT AND ADDITIONAL SUPPLY WELL SAMPLING (11/16/2023)

During the initial sampling event conducted on November 6, 2023, TEC noted the presence of a vent pipe located at the adjoining property to the north, 1640 Coopers Cove Road. On November 16, 2023, TEC and personnel from the DEQ met on-site with the homeowners of both properties to discuss additional work and collect a groundwater sample from the supply well at 1640 Coopers Cove Road. TEC discussed the vent pipe with the property owner, Mr. Ray Holland, and discovered that Mr. Holland had buried three 1,000-gallon underground storage tanks (USTs) in the late 1970s to provide gasoline for his private plumbing business. The tanks were taken out-of-use in the late 1990s and were reportedly vacuumed of their contents and left empty in-place. The UST basin is located under a concrete pad approximately 200 feet north and topographically up-gradient from the impacted supply well at 1556 Coopers Cove Road (Figure 2). TEC obtained a signed site access agreement for further investigation at 1640 Coopers Cove Road, which is available in Appendix A.

An out-of-use 500-gallon heating oil UST is also located on the property at 1640 Coopers Cove Road. The tank is located underneath a stamped concrete patio in a breezeway located on

the north side of the residence. According to information obtained from Mr. Holland, the UST was taken out of service approximately 25 years ago and the contents were vacuumed and disposed of. The tank was left emptied and in-place. TEC used water finding paste and a tank gauging stick to measure approximately one inch of heating oil and two inches of water remaining inside the tank. The bottom of the tank was measured to be approximately 73 inches bgs. The UST is located approximately eight feet southeast from the in-use supply well. According to information obtained from the homeowner, the supply well was drilled to a depth of approximately 213 feet bgs.

The homeowner at 1556 Coopers Cove Road, indicated a heating oil tank was either removed or taken out of service prior to purchasing the home in July of 2022. The tank is thought to be located on the eastern side of the residential home where two copper lines entered the basement and had been cut. The estimated location of this tank can also be seen on Figure 2.

Due to the high levels of DPH in the supply well at 1556 Coopers Cove Road, TEC proceeded to collect groundwater samples from the neighboring properties located at 1609 Coopers Cove Road, 1601 Coopers Cove Road, and 100 Patsel Court. The supply wells at each property were allowed to purge for approximately 15 minutes from an unfiltered spigot/faucet prior to sample collection. The samples were collected in laboratory provided glassware, placed on ice and transported to Enthalpy Analytical for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.2.1 Groundwater Sample Results (11/16/2023)

Petroleum analytes were not detected in the samples collected from 1609 or 1601 Coopers Cove Road. Detections of MTBE were reported in the samples collected from 100 Patsel Court (11.8 µg/L) and 1640 Coopers Cove Road (39.4 µg/L). The DEQ was alerted to the impacted supply wells and Culligan moved forward with installation of CFUs. The laboratory report and chain of custody documentation is available in Appendix C. Table 1 summarizes site addresses, sample dates, and analytical results.

2.3 FOIA REQUEST

After it was determined that DPH had spread approximately 350-400 feet from the impacted supply wells on Coopers Cove Road, TEC submitted a Freedom of Information Act (FOIA) request to Franklin County Health Department on November 27, 2023, for supply well and septic information for 17 parcels surrounding the impacted wells. On December 4, 2023, TEC received information on 12 of the lots requested. The FOIA documentation is available in Appendix D and Table 2 summarizes all pertinent supply well construction data.

2.4 ADDITIONAL SUPPLY WELL SAMPLING EVENTS (11/30/2023)

On November 30, 2023, TEC personnel returned to Patsel Court in Hardy, Virginia, and proceeded to sample the ten remaining supply wells in the cul-de-sac that had not been sampled. When sediment filters and water softener systems were present, they were bypassed if possible. Each supply well was allowed to purge for 15 minutes prior to sample collection from an unfiltered spigot/faucet. The ten properties included on the November 30, 2023, sampling event include: 76 Patsel Court, 60 Patsel Court, 35 Patsel Court (post-filter), 55 Patsel Court, 85 Patsel Court, 105 Patsel Court, 95 Patsel Court, 160 Patsel Court, 164 Patsel Court, and 163 Patsel Court. The samples were delivered to the laboratory on December 1, 2023, for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

TEC also visited 1640 Coopers Cove Road to briefly investigate the UST system located at the property. Two eight-inch manhole covers were located that contained the fill pipes for the three USTs. TEC was unable to open the fill pipes to gauge the tanks but made note of the equipment needed to open the fill pipes at a later date.

2.4.1 Groundwater Sample Results (11/30/2023)

Detections of MTBE were reported in nine of the ten supply wells that were sampled on Patsel Court. These detections ranged from non-detect (ND) in 76 Patsel Court to 19.8 µg/L in 60 Patsel Court. Sample results are available in Table 1 and the Map Identification Number corresponds to the numbers on the aerial diagram of residences in the immediate area in Figure 3. The analytical data was relayed to the DEQ and the DEQ subsequently scheduled installation of nine additional CFU systems. The laboratory analytical report and chain of custody documentation is available in Appendix E.

2.5 ADDITIONAL SUPPLY WELL SAMPLING EVENTS (12/4-12/5/2023)

During sampling of 35 Patsel Court on November 30, 2023, TEC personnel broke the handle of the bypass valve for the carbon and sediment combination filter. On December 4, 2023, TEC returned to the property in order to repair the valve, replace the filter for the homeowner, and collect a raw, pre-filter groundwater sample from the supply well. The well was allowed to purge for 15 minutes prior to sample collection. The samples were collected in laboratory-provided sample containers, properly labeled, and placed on ice and delivered to the laboratory for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT. TEC visited four additional properties in the immediate area in order to collect groundwater samples from the supply wells: 1458 Coopers Cove Road, 1515 Coopers Cove Road, 1451 Coopers Cove Road, and 1850 Coopers Cove Road. According to the current homeowner, the drinking water for the residence at 1850 Coopers Cove Road is obtained from a natural spring located on the property.

2.5.1 Groundwater Sample Results (12/4-12/5/2023)

Detections of MTBE were reported in the samples collected from 1458 Coopers Cove Road (89.4 µg/L) and 35 Patsel Court (8.79 µg/L). The DEQ was alerted to the new detection of MTBE at 1458 Coopers Cove Road and a CFU was scheduled to be installed. A CFU was also pending installation for 35 Patsel Court. Detections of acetone were reported in the samples collected from 35 Patsel Court (29.1 µg/L), 1850 Coopers Cove Road (11 µg/L), and 1451 Coopers Cove Road (17 µg/L). The analytical report and chain of custody documentation for the December 4 and 5, 2023, sampling event is available in Appendix F. As of December 5, 2023, a total of 13 supply wells had been impacted by petroleum constituents.

2.6 PUBLIC MEETING

On December 10, 2023, the DEQ coordinated a public meeting with members of the Coopers Cove community. The meeting took place at the Coopers Cove Community Center and multiple DEQ personnel attended the meeting to answer questions and discuss ongoing and future work. A copy of the handout provided at the meeting is available in Appendix G.

2.7 UST INVESTIGATION – 1640 COOPERS COVE ROAD

On December 11, 2023, TEC personnel mobilized to 1640 Coopers Cove Road to gauge the contents of the tanks at the property and attempt to obtain soil samples from around the USTs. After speaking with the homeowner, it was determined that only two of the USTs were connected to the fill pipes. The third UST was manifolded into one of the other tanks and could not be gauged. Once the fill pipes were successfully opened, TEC gauged the westernmost tank located closest to the retaining wall (“T-1”) and noted that two inches of gasoline were located inside the tank. The middle tank, “T-2”, was gauged and it was noted that approximately three quarters of an-inch of gasoline was present. The third tank located to the east (“T-3”) did not have a fill pipe and was not able to be gauged. The former dispenser system was located further to the east near the garage building. The dispenser has since been removed but a concrete pad remains in-place near a second vent pipe. The approximate tank locations can be seen in Figure 2.

2.8 ADDITIONAL SUPPLY WELL SAMPLING EVENTS (12/11-12/12/2023)

On December 11, 2023, TEC personnel visited four additional properties to collect groundwater samples for analysis of petroleum compounds, 1755 Coopers Cove Road, 104 Ridgecrest Road, 1739 Coopers Cove Road, and 1719 Coopers Cove Road. The supply wells were allowed to purge for approximately 15 minutes prior to sample collection from unfiltered spigot or faucet. The samples were collected in glassware provided by Enthalpy Analytical, properly labeled, placed on ice and transported to the laboratory for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

TEC returned to the site on December 12, 2023, to collect four additional groundwater samples from the supply wells located at 17 Ridgecrest Road, 46 Ridgecrest Road, 1430 Coopers Cove Road, and 1555 Coopers Cove Road. The samples were placed on ice and taken to Enthalpy Analytical for analysis of VOCs and SVOCs.

While on-site sampling at 1430 Coopers Cove Road, a vent pipe was observed on the property. Investigation of this UST as a potential source will be conducted in a subsequent phase, pending a site access agreement and owner permission.

2.8.1 Groundwater Sample Results (12/11-12/12/2023)

Detections of MTBE were reported in the samples collected from 1755 Coopers Cove Road (1.85 µg/L), 104 Ridgecrest Road (1.57 µg/L), 1739 Coopers Cove Road (8.31 µg/L), and 1719 Coopers Cove Road (28.2 µg/L). The sample results were relayed to the DEQ and CFU installations scheduled. As of December 12, 2023, a total of 17 supply wells had been impacted by MTBE. In addition to MTBE, detections of acetone (16.2 µg/L), bromodichloromethane (1.15 µg/L), chloroform (2.62 µg/L), and dibromochloromethane (0.69 µg/L) were reported in the groundwater collected from 1719 Coopers Cove Road. Per limited research and information collected from the homeowner, these detections are likely attributed to the routine chlorination of private supply wells and are not thought to be related to the petroleum release. The analytical report and chain of custody documentation is available in Appendix H.

2.9 ACETONE RESAMPLING EVENT (12/13/2023)

Acetone is commonly used as a cleaning agent and/or solvent (including in the laboratory) and is unlikely to be related to the petroleum release. Acetone detections had been reported in

three of the supply wells that had been sampled. The detection in the supply well located at 35 Patsel Court is likely related to the plumbing adhesive used to fix the valve on the sediment filter. Due to the pending CFU installation on this supply well, this well was not resampled. After determining that the laboratory glassware that were used to collect the samples from 1850 Coopers Cove Road and 1451 Coopers Cove Road were obtained from a different laboratory than previous samples, TEC scheduled these two supply wells to be resampled with Enthelpy Analytical glassware on December 13, 2023. TEC confirmed with Enthelpy Analytical that acetone was not used as a cleaning agent for any equipment used to perform VOC analysis. The supply wells were resampled in the designated glassware and transported to Enthelpy Analytical for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.9.1 Groundwater Sample Results (12/13/2023)

There were no reported detections of acetone in the follow-up samples obtained from 1850 Coopers Cove Road and 1451 Coopers Cove Road. The analytical report and chain of custody documentation are available in Appendix I.

2.10 ADDITIONAL SUPPLY WELL SAMPLING EVENT AND UTILITY LOCATE (12/15/2023)

TEC visited 1640 Coopers Cove Road on December 15, 2023, to oversee private utility locating provided by Ground Penetrating Radar Systems (GPRS). GPRS utilized a portable Ground Penetrating Radar (GPR) to mark the approximate location of the UST basin, suspect fuel and/or vent pipe underground line, electrical, irrigation, water lines, and septic/drain field locations in order to clear these locations for future soil boring activities. GPRS also located the suspected heating oil UST at the neighboring property, 1556 Coopers Cove Road, and the former buried supply well for the property. A copy of the utility map is available in Appendix J.

At the request of the homeowner at 1556 Coopers Cove Road, TEC collected a post-filtration sample to ensure that the water coming from the faucet was potable. The well was allowed to purge for 15 minutes prior to sample collection. The sample was taken from the basement faucet in laboratory-provided containers and placed on ice. TEC then collected a sample from five additional properties in the immediate area, 1653 Coopers Cove Road, 17 Valley View Road, 1326 Coopers Cove Road, 55 Valley View Road, and 1356 Coopers Cove Road. Per owner information, the property at 1356 Coopers Cove Road operates as a commercial greenhouse (Walter's Greenhouse) and utilizes large amounts of groundwater. The samples were transported to Enthelpy Analytical for analysis of VOCs via EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.10.1 Groundwater Sample Results (12/15/2023)

Detections of MTBE were reported in the groundwater samples collected from 1653 Coopers Cove Road (28.6 µg/L). There were no other reported detections in any of the other supply wells that were sampled. This includes the post-filtration sample obtained from the heavily impacted supply well located at 1556 Coopers Cove Road. The analytical data were reported to the DEQ and a CFU was scheduled for installation. As of December 15, 2023, a total of 18 supply wells had been impacted by petroleum constituents. The analytical report and chain of custody documentation is available in Appendix K. The updated table with all supply well analytical data is available as Table 1.

2.11 DIRECT PUSH TECHNOLOGY EVENT

After private utilities were marked by GPRS and public utilities were marked by Miss Utility, TEC personnel contracted Davidson Drilling to perform a soil boring survey via Direct Push Technology (DPT) on December 22, 2023. A total of eight soil borings were advanced via DPT until probe refusal was encountered or borings were terminated at depths of approximately 18 to 36 feet bgs. One additional boring was advanced via hand auger near the out-of-use heating oil UST located at 1640 Coopers Cove Road due to access issues. This boring is discussed further in Section 2.12.1.

Soil boring B-1 was advanced to the east of the suspected location of the out-of-use heating oil UST at 1556 Coopers Cove Road. Boring B-2 was located 90 feet southwest and down-gradient of the gasoline UST basin, beyond the retaining wall and adjacent to existing aboveground storage tanks (ASTs) that were observed. Boring B-3 was advanced ten feet northwest and down-gradient of the gasoline UST basin and just beyond the retaining wall adjacent to the tanks. Soil boring B-4 was installed near the former gasoline dispenser and boring B-5 was installed on the northeastern edge of the UST basin. Boring B-6 was installed to the west of the tanks, in between the UST basin and the retaining wall. Soil borings B-7 and B-8 were installed at the southwestern and southeastern edges of the UST basin, respectively. A diagram showing the location of each borehole is available as Figure 4.

Continuous soil sampling was conducted from each boring location and soil was field screened in the field using a MiniRAE 2000 photoionization detector (PID) calibrated to a 100-parts per million (ppm) isobutylene standard prior to use. Observations during the soil sampling event indicate the presence of brown/red clay in the soils from five to ten feet bgs, followed by a layer of brown/red silt from approximately ten to 15 feet bgs. Weathered saprolite was periodically encountered with black and white striations around 15-20 feet bgs, before transitioning to mostly brown sandy silt for the remainder of each bore hole. Groundwater was not encountered in any of the bore holes. Boring logs are included in Appendix L. Photographs of site activities are provided in Appendix M.

2.12 DPT SOIL SAMPLING

Soil samples were collected throughout the DPT event at five-foot intervals and also at additional intervals when a geological or olfactory change was encountered. The soils from the borings were visually inspected, logged by TEC for soil type, and field-screened with a PID. Overt petroleum odors were noted via olfactory senses in four of the eight borings (B-1, B-5, B-7, and B-8). Boring B-1 was located adjacent to the suspected location of the heating oil UST at 1556 Coopers Cove Road and exhibited petroleum odors beginning at eight feet bgs and extending to a depth of approximately 15 feet bgs. Boring B-5 was advanced at the northeast end of the gasoline UST basin at 1640 Coopers Cove Road and slight petroleum odors were noted at approximately 25 feet bgs. Soil borings B-7 and B-8 were installed at the eastern and southern ends of the UST basin, respectively. Strong gasoline odors were noted beginning at depths of approximately five feet and extending to the bottom of B-7 and B-8 where probe refusal was encountered at 33 feet bgs and 36 feet bgs, respectively.

Observed PID readings ranged from 0.3 ppm in B-4 to 3,849 ppm in B-7. The highest PID readings generally corresponded to soil samples collected at depths of approximately eight to ten

feet bgs. Boring logs containing total depth, PID readings, and other pertinent data are available in Appendix L. Soil samples with the highest PID readings and/or the deepest soil sample for each bore hole were submitted to Enthalpy Analytical for analysis of BTEX/MTBE/naphthalene via EPA Method 8021B, VOCs and SVOCs via EPA Method 8051C. Laboratory analytical results obtained during soil sampling are discussed further in Section 2.11.2 and Table 3 summarizes the soil analytical results.

2.12.1 Hand Auger Soil Boring

Due to limited space for the DPT rig, TEC used a hand auger to advance a bore hole adjacent to the out-of-use heating oil UST located at 1640 Coopers Cove Road. The UST is located under a stamped concrete patio with a pergola above. The hand auger was advanced in an existing hole in the concrete that is located approximately ten feet from the UST. The auger was advanced to a depth of 90 inches bgs. Petroleum odors were not encountered during the hand auger event. A soil sample was obtained at 90 inches bgs and transported to Enthalpy Analytical for analysis of petroleum compounds.

2.12.2 Site Geology

According to the United States Geological Survey (USGS), the most prominent formation in the immediate area is the Ashe Formation, which is described as containing medium- to light-gray, massive, conglomeratic biotite schist and gneiss, with feldspar, quartz, and granitic clasts; grading upwards into medium- to fine-grained, salt-and-pepper-textured two-mica plagioclase gneiss with very-light-gray mica schist interbeds. A weathered saprolite layer was typically encountered between 10-15 feet bgs in the drilling area, with a near consistent transition from clay to silt after this depth. A more extensive site geology description will be included in the upcoming phase of work.

2.12.3 Soil Sample Results

The soil samples collected during advancement of each bore hole were placed on ice and transported to Enthalpy Analytical. The soils collected from the borings adjacent to the heating oil tanks (“B-1” and “Holland HO”) were analyzed for Total Petroleum Hydrocarbon – Diesel Range Organics (TPH-DRO) via EPA Method 8015C. All other soil samples were analyzed for TPH-DRO, as well as Total Petroleum Hydrocarbon – Gasoline Range Organics (TPH-GRO) via EPA Method 8015C and BTEX, MTBE, and naphthalene via EPA Method 8021B.

Detections were reported in the soil samples collected from B-1, B-2, B-3, B-4, B-5, B-7, and B-8. Detections of TPH-DRO were highest in the samples submitted from borehole B-1 at a depth of eight feet, which was the boring located adjacent to the heating oil UST at 1556 Coopers Cove Road. These detections include 14,200 milligrams per kilogram (mg/kg), which is above the DEQ soil saturation level of 13,000 mg/kg. Samples collected from B-7 at a depth of ten feet were highest for TPH-GRO levels at 3,490 mg/kg, benzene at 969 micrograms per kilogram (µg/kg), ethylbenzene (79,800 µg/kg), total xylenes (344,000 µg/kg), total BTEX (485,969 µg/kg), and naphthalene (71,900 µg/kg). Detections of toluene were highest in the samples collected from boring B-8 at a depth of 34-36 feet. There were no reported detections in the samples collected from B-6 to the west of the UST basin or from the boring advanced near the heating oil UST at 1640 Coopers Cove Road. A summary of the laboratory analytical data for each soil sample is available in Table 3. The laboratory report and chain-of-custody documentation are available as Appendix N.

With detections of 14,200 mg/kg TPH-DRO reported in the soil samples collected near the heating oil UST at 1556 Coopers Cove Road, it is evident that a petroleum release has occurred at this property. The DEQ was notified, and PC# 2024-2133 was subsequently opened. The releases reported surrounding the gasoline UST basin at 1640 Coopers Cove Road will remain under PC# 2024-2089. DEQ memorandums for both petroleum releases are available in Appendix O.

2.13 ADDITIONAL SUPPLY WELL SAMPLING EVENT (12/22/2023)

On December 22, 2023, TEC personnel obtained supply well samples from 350 Ridgecrest Road and 1987 Coopers Cove Road. A follow-up sample was also collected from the supply well located at 76 Patsel Court, the only residence on the cul-de-sac that was not originally impacted by MTBE. TEC personnel allowed the wells to purge for approximately 15 minutes before collecting the samples in laboratory-provided containers. The samples were placed on ice and transported to Enthalpy Analytical for analysis of EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.13.1 Groundwater Sample Results (12/22/2023)

There were no reported detections of petroleum compounds in the samples collected from any of the three supply wells that were sampled. The analytical report and chain of custody documentation is available in Appendix N. Table 1 displays all historical supply well sampling data.

2.14 ADDITIONAL SUPPLY WELL SAMPLING EVENT (12/26/2023)

On December 26, 2023, TEC personnel obtained supply well samples from 130 Ridgecrest Road and 5444 Windermere Way. TEC personnel allowed the wells to purge for approximately 15 minutes before collecting the samples in laboratory-provided containers. The samples were placed on ice and transported to Enthalpy Analytical for analysis of EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.14.1 Groundwater Sample Results (12/26/2023)

A detection of MTBE (5.54 µg/L) was reported in the groundwater sample collected from 130 Ridgecrest Road, bringing the total number of impacted supply wells in the area to 19. The DEQ was alerted to this detection and a CFU was scheduled for installation. There were no reported detections in the supply well located at 5444 Windermere Way. The analytical report and chain of custody documentation are available in Appendix P and the sample results are summarized in Table 1.

2.15 TANK REMOVAL PERMIT

On January 2, 2024, TEC applied for a UST removal permit with Franklin County Development Services for the tanks located at 1640 Coopers Cove Road. The tank removal has been scheduled to begin on February 6, 2024, during the next phase of work. On January 26, 2024, TEC applied for a UST removal permit with Franklin County Development Services for the heating oil tank located at 1556 Coopers Cove Road. This tank investigation will also occur during removal of the gasoline tanks at 1640 Coopers Cove Road. Copies of both Franklin County UST Removal Permits are available in Appendix Q.

2.16 ADDITIONAL SUPPLY WELL SAMPLING EVENT (1/22/2024)

On January 22, 2024, TEC personnel obtained supply well samples from a community well serving eight residential homes located near 411 Coopers Cove Road and a supply well located at 52774 Palmetto Bluff Road. TEC personnel allowed the wells to purge for approximately 15 minutes before collecting the samples in laboratory-provided containers. The samples were placed on ice and transported to Enthalpy Analytical for analysis of EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.16.1 Groundwater Sample Results (1/22/2024)

There were no reported detections of petroleum compounds in the samples collected from the community supply well or the supply well located at 52774 Palmetto Bluff Road. The analytical report and chain of custody documentation is available in Appendix R. Table 1 displays all historical supply well sampling data.

2.17 ADDITIONAL SUPPLY WELL SAMPLING EVENT (1/25/2024)

On January 25, 2024, TEC personnel obtained supply well samples from a total of six residences including 5390 Palmetto Bluff Road, 2250 Coopers Cove Road, 5290 Pitzer Road, 2234 Coopers Cove Road, 2237 Coopers Cove Road, and 5281 Pitzer Road. TEC personnel allowed the wells to purge for approximately 15 minutes before collecting the samples in laboratory-provided containers. The samples were placed on ice and transported to Enthalpy Analytical for analysis of EPA Method 8260D and SVOCs via EPA Method 8270E under a three-day TAT.

2.17.1 Groundwater Sample Results (1/25/2024)

There were no reported detections in any of the supply well samples that were collected on January 25, 2024. The analytical report and chain of custody documentation are available in Appendix S.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

Release Investigation activities conducted during this phase of work confirmed two petroleum releases have occurred in the immediate area of Coopers Cove Road. Subsequent phases of investigation may result in additional sources that are contributing to the subsurface impact. The release from the gasoline USTs at 1640 Coopers Cove Road will remain under PC# 2024-2089, while the release that occurred from the heating oil UST at 1556 Coopers Cove Road will be placed under PC# 2024-2133.

During this phase of work, groundwater samples were obtained from 44 residential supply wells within one mile of the gasoline UST release. A total of 18 supply wells have been confirmed to be impacted by MTBE and/or other petroleum-related constituents. Carbon filtration systems have been installed on each impacted supply well in order to provide potable drinking water to each residence.

3.2 RECOMMENDATIONS

TEC recommends conducting additional site work under PC# 2024-2089 during an Initial Abatement Measures phase, which is to include the following activities:

- Removal of three gasoline USTs and petroleum-impacted soil beneath the tanks.
- Continue to collect groundwater samples from supply wells located within one mile of the release as requested by homeowners and authorized by DEQ.
- Continue to investigate the feasibility of extending the municipal water supply that is currently owned by Lakeshore Terrace and will potentially be purchased by Western Virginia Water Service Authority.
- Consider conducting a Phase I investigation to determine the feasibility of installing a privately owned public water supply to service the impacted area.
- Perform investigation of the vent pipe and possible UST system observed at 1430 Coopers Cove Road, if granted permission from the homeowner.
- Conduct additional investigation of the heating oil tank located at 1640 Coopers Cove Road due to the distance of the original hand auger boring from the tank. TEC suggests using a concrete core drill to create an opening in the patio near the UST. TEC will utilize a hand auger to advance a boring through this opening in order to obtain a more representative sample closer to the UST.

TEC also recommends conducting additional site work under PC# 2024-2133 during a Site Characterization phase, which is to include the following activities:

- Removal of one heating oil UST and petroleum-impacted soil beneath the tank depending on tank proximity to building foundation.
- Periodic collection of post-CFU samples to ensure the residence continues to have access to potable drinking water.



- Investigation of the out-of-use supply well that was located on the property at 1556 Coopers Cove Road and collect a groundwater sample, if possible.

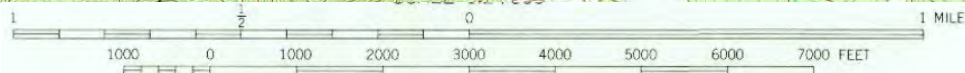
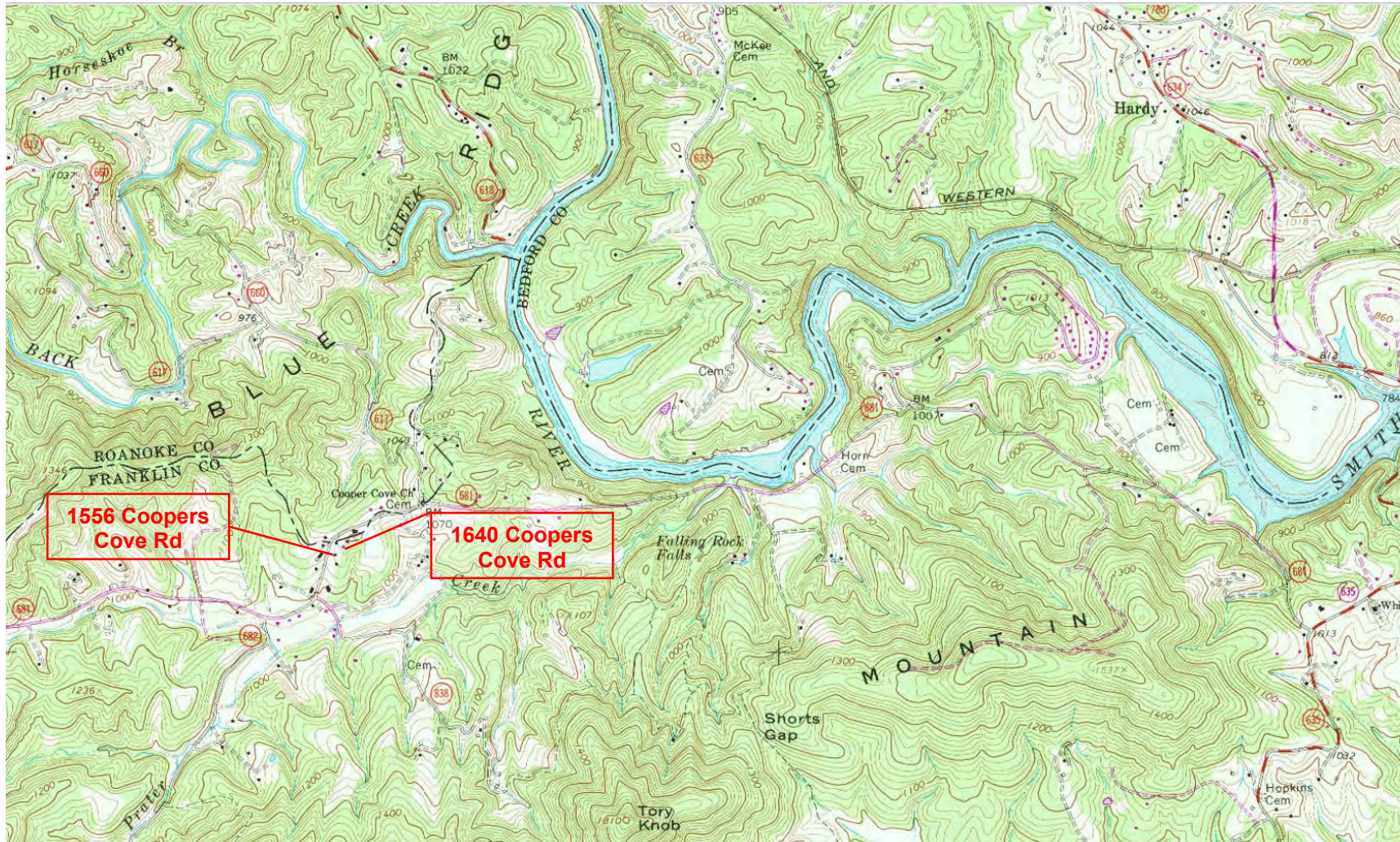
4.0 LIMITATIONS

TEC's professional services have been performed, findings obtained, and recommendations prepared in accordance with customary principles and practices in the fields of geology and environmental science. TEC is not responsible for the independent conclusions, opinions, or recommendations made by others based on the field exploration and laboratory test data presented in this report.

The work performed in conjunction with this report and the data developed are intended to describe available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.



FIGURES



8382 Terminal Road
 Suite B
 Lorton, VA 22079
 Office: 703-567-4346

Image obtained from: TopoView 1/9/2024
 1963 Hardy, VA Quadrangle

TOPOGRAPHIC MAP

1556 and 1640 Coopers Cove Road

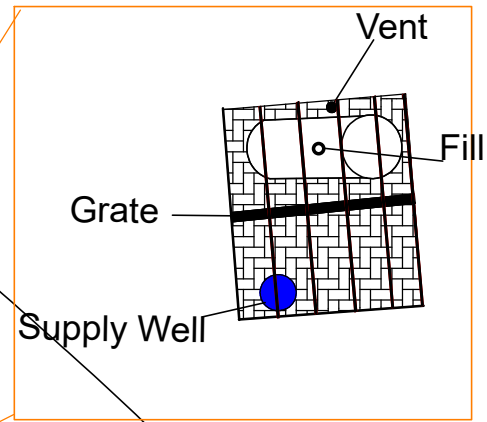
Hardy, Virginia 24101

Figure No.

1



Coopers Cove Road



1556

1640

Retention Wall

T-1
T-2
T-3

1640

Supply Well

LEGEND

- UST
- AST
- PROPERTY BOUNDARY

10' 30'
Approximate Scale in Feet

TEC
Total Environmental Concepts

8382 Terminal Road
Bay B
Lorton, Virginia 22079
(703) 567-4346

PC#	Job#	Date
2007-3199		January 2024

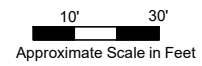
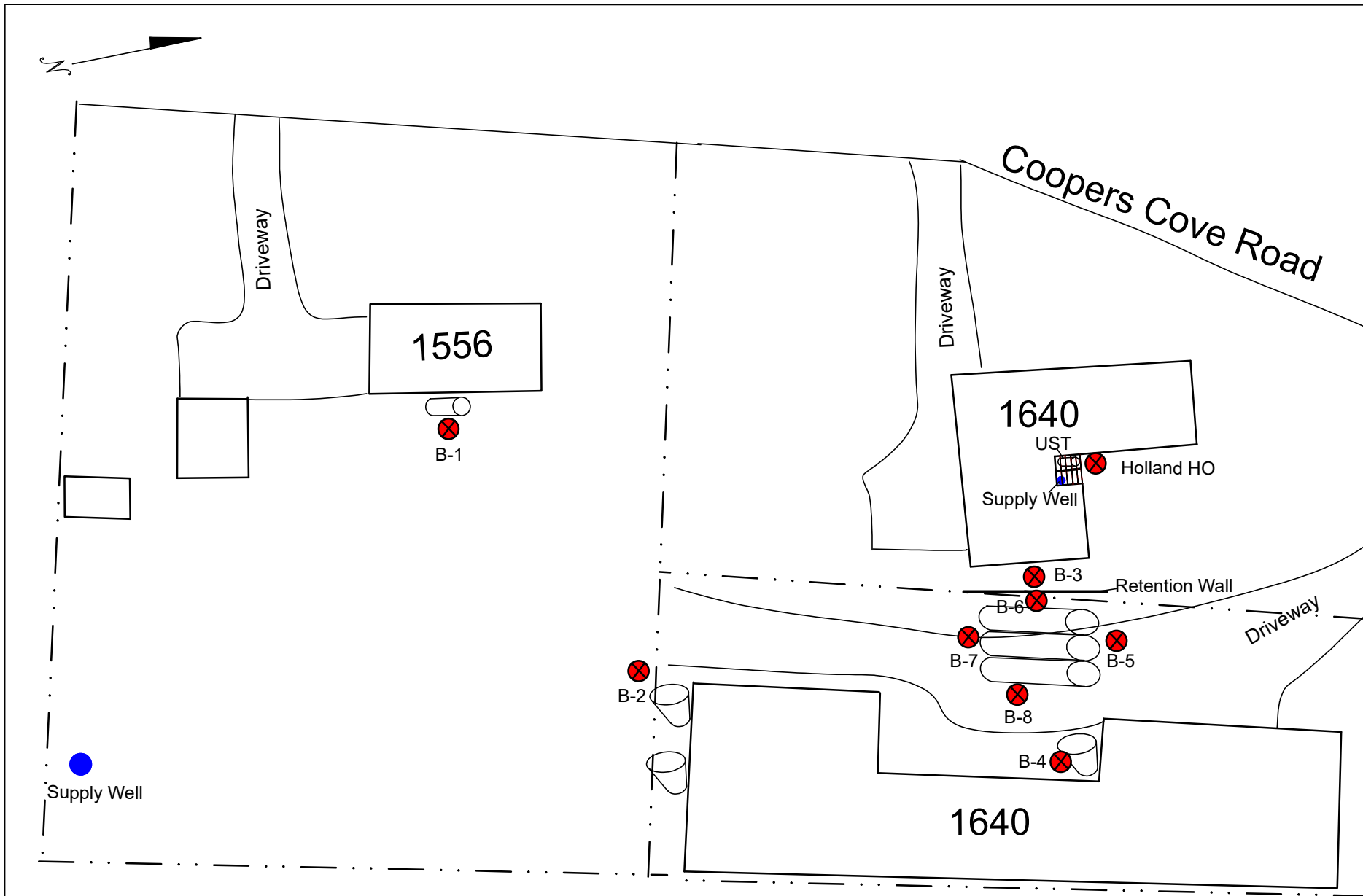
Detailed Site Sketch

Coopers Cove Petroleum Release
1556 & 1640 Coopers Cove Road
Hardy, Virginia

Figure
2



**Not pictured due to distance but all registering non-detect #37, #38, #39, #40, #42, #43



LEGEND	
	UST
	AST
	PROPERTY BOUNDARY
	BORING LOCATION

8382 Terminal Road Bay B Lorton, Virginia 22079 (703) 567-4346		
PC# 2007-3199	Job#	Date January 2024

Boring Locations

Coopers Cove Petroleum Release
1556 & 1640 Coopers Cove Road
Hardy, Virginia

Figure
4



TABLES

Table 1. Groundwater Sample Analytical Results
Coopers Cove Petroleum Release
Hardy, Virginia
PC NO. 2024-2089
TEC Project # 4260155

Map I.D. Number	Sample Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	Naphthalene (SVOC) (µg/L)	1,2,4-Trimethylbenzene (µg/L)	1,3,5-Trimethylbenzene (µg/L)	2-Butanone (MEK) (µg/L)	2-Hexanone (MBK) (µg/L)	4-Isopropyltoluene (µg/L)	Acetone (µg/L)	DIPE (µg/L)	Isopropyl benzene (µg/L)	n-Butyl benzene (µg/L)	n-Propyl benzene (µg/L)	sec-Butyl benzene (µg/L)	Chloroform (µg/L)	Bromo dichloromethane (µg/L)	Dibromo chloromethane (µg/L)
1	1556 Coopers Cove Rd	11/6/2023	217	307	93	1,040	1,657	6,500	93.9	44.3	296	133	13.6	13.3	1.72	29.2	17.3	21.9	4.69	41	104	ND	ND	ND
	1556 Coopers Cove Rd (Post-CFU)	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	1640 Coopers Cove Rd	11/6/2023	ND	ND	ND	ND	ND	39.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3	100 Patsel Ct	11/16/2023	ND	ND	ND	ND	ND	11.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4	1601 Coopers Cove Rd	11/16/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5	1609 Coopers Cove Rd	11/16/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6	76 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		12/22/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7	60 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	19.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8	35 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	6.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		12/4/2023	ND	ND	ND	ND	ND	8.79	ND	ND	ND	ND	ND	ND	ND	29.1	ND	ND	ND	ND	ND	ND	ND	ND
9	55 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	19.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
10	85 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	6.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11	95 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	4.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12	105 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	3.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
13	163 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	7.92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
14	164 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	7.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
15	160 Patsel Ct	11/30/2023	ND	ND	ND	ND	ND	6.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
16	1515 Coopers Cove Rd	12/5/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
17	1458 Coopers Cove Rd	12/5/2023	ND	ND	ND	ND	ND	89.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		12/4/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND
18	1850 Coopers Cove Rd	12/13/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		12/4/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND
19	1451 Coopers Cove Rd	12/13/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20	1739 Coopers Cove Rd	12/11/2023	ND	ND	ND	ND	ND	8.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
21	1555 Coopers Cove Rd	12/12/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
22	17 Ridgecrest Rd	12/12/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
23	46 Ridgecrest Rd	12/12/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
24	1430 Coopers Cove Rd	12/12/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
25	104 Ridgecrest Rd	12/11/2023	ND	ND	ND	ND	ND	1.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
26	1719 Coopers Cove Rd	12/11/2023	ND	ND	ND	ND	ND	28.2	ND	ND	ND	ND	ND	ND	ND	16.2	ND	ND	ND	ND	ND	ND	ND	ND
27	1755 Coopers Cove Rd	12/11/2023	ND	ND	ND	ND	ND	1.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
28	1653 Coopers Cove Rd	12/15/2023	ND	ND	ND	ND	ND	28.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
29	1356 Coopers Cove Rd "Walter's Greenhouse"	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30	17 Valley View Rd	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
31	1326 Coopers Cove Rd	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.62	1.15	0.69
32	55 Valley View	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
33	350 Ridgecrest Drive	12/15/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
34	1987 Coopers Cove Rd	12/22/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
35	130 Ridgecrest Rd	12/22/2023	ND	ND	ND	ND	ND	5.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
36	5444 Windermere Way	12/26/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
37	Community Well (near 411 Coopers Cove Rd)	1/22/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
38	52774 Palmetto Bluff Rd	1/22/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
39	5390 Palmetto Bluff Rd	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
40	2250 Coopers Cove Road	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
41	5290 Pitzer Road	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
42	2234 Coopers Cove Road	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
43	2237 Coopers Cove Road	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
44	5281 Pitzer Road	1/25/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
USEPA Regional Screening Levels			5.0	1,000	700	10,000	--	14	0.12	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--

ND - "non-detect"
 -results in bold type exceed the USEPA Regional Screening Levels (RSLs) for Maximum Contaminant Load (MCL) in Resident Soil to Groundwater based on November 2023 RSLs
 *- no MCL available; Carcinogenic Screening Level used in place

Table 2. Supply Well Construction Data
Coopers Cove Petroleum Release
Hardy, Virginia
PC NO. 2024-2089
TEC Project # 4260155

Property Address	Date Drilled	GPM	Depth to Bedrock (ft.)	Stabilized Water Level (ft.)	Total Depth (ft.)	Casing (ft.)	Grout (ft.)	Grout Type	Steel or PVC	Water Zone (ft.)
60 Patsel Court	4/28/2004	6	58	150	600	0-83	0-83	Bentonite	PVC	563-564
76 Patsel Court	5/9/2005	1.5	67	--	500	0-67	0-67	Bentonite	PVC	--
100 Patsel Court	6/16/2005	3	70	--	500	0-70	0-70	Cement	PVC	--
160 Patsel Court	10/7/2004	3	82	60	400	0-82	0-82	Bentonite	PVC	270
164 Patsel Court	1/31/2007	1	92	60	560	0-92	0-92	Bentonite	PVC	260
163 Patsel Court	2/17/2006	12	42	150	300	0-103	0-103	Bentonite	PVC	207-208
105 Patsel Court	--	--	--	--	--	0-65	0-65	--	--	--
85 Patsel Court	12/11/2006	0.5	25	146	1200	0-83	0-82	Bentonite	PVC	1000-1001
55 Patsel Court	5/29/2007	2	52	--	505	0-52	0-52	Bentonite	PVC	360-361
35 Patsel Court	9/27/2007	5	75	60	340	0-75	0-75	Bentonite	PVC	160

GPM - Gallons Per Minute
PVC - Polyvinyl Chloride

**Table 3. Soil Analytical Data
Coopers Cove Petroleum Release
Hardy, Virginia
PC NO. 2024-2089
TEC Project # 4260155**

Sample I.D.	Date Collected	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	Total BTEX (µg/kg)	MTBE (µg/kg)	Naphthalene (µg/kg)
B-1 @ 8'	12/22/2023	14,200	--	--	--	--	--	--	--	--
B-1 @ 12'	12/22/2023	296	--	--	--	--	--	--	--	--
Holland HO @ 90"	12/22/2023	ND	--	--	--	--	--	--	--	--
B-2 @ 32'	12/22/2023	18.2	0.11	ND	ND	ND	ND	ND	ND	ND
B-3 @ 25'	12/22/2023	15.4	ND	ND	ND	ND	ND	ND	ND	ND
B-4 @ 18'	12/22/2023	13.3	ND	ND	ND	ND	ND	ND	ND	ND
B-5 @ 25'	12/22/2023	17.0	0.49	ND	ND	ND	ND	ND	ND	11.1
B-6 @ 20'	12/22/2023	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-7 @ 10'	12/22/2023	2,870	3,490	969	61,200	79,800	344,000	485,969	ND	71,900
B-7 @ 31-33'	12/22/2023	1,050	930	ND	16,200	21,400	117,000	154,600	ND	28,100
B-8 @ 10'	12/22/2023	2,720	2,660	815	55,800	56,800	292,000	405,415	ND	47,800
B-8 @ 34-36'	12/22/2023	1,490	1,650	760	72,000	51,800	225,000	349,560	ND	30,300
USEPA Regional Screening Levels (µg/kg)		--	--	1,200	--	5,800	--	--	47,000	2,000

"--": Not Analyzed
 mg/kg: milligrams per kilogram
 µg/kg: micrograms per kilogram
 -results in bold type exceed the USEPA Regional Screening Levels (RSLs) for Carcinogenic Screening Level in Resident Soil based on November 2023 RSLs
 "": No RSL available



Appendix A

Signed Site Access Agreements



November 15, 2023

1556 Coopers Cove Road
Hardy VA 24101

Re: **Petroleum Release**
PC# 2024-2089

Dear

On behalf of our clients, the Virginia Department of Environmental Quality, Blue Ridge Regional Office (VDEQ-BRRO), Total Environmental Concepts, Inc. (TEC) is writing to request access to the above referenced property. TEC has been directed by DEQ-BRRO to conduct additional investigation of a petroleum release in the area and if necessary, perform corrective actions. The work will generally consist of sampling on and off-site drinking water wells, installation of groundwater monitoring wells, and replacement of the impacted drinking water well. This requested work will be conducted under Pollution Complaint (PC) #2024-2089 for the DEQ State Lead Program.

If you have any questions regarding this request, please contact Shanna Hryvniak at (604) 369-7983 or Jim Trimbie at (604) 614-7322. For additional information, you may also contact the DEQ-BRRO case manager, Mr. David Kirby at (540) 598-1502.

Sincerely,

Shanna Hryvniak
Project Manager

Please print and sign your name below if you agree to grant TEC access to your property. You can also scan and return this document to me at shryvniak@teci.pro. We thank you in advance for your permission and this agreement.

Print Name: _____

Signed: _____

Date: 11/16/2023 Phone #: _____

Email: _____



November 15, 2023

1640 Coopers Cove Road
Hardy VA 24101

Re: **Petroleum Release**
PC# 2024-2089

Dear Property Owner:

On behalf of our clients, the Virginia Department of Environmental Quality, Blue Ridge Regional Office (VDEQ-BRRO), Total Environmental Concepts, Inc. (TEC) is writing to request access to the above referenced property. TEC has been directed by DEQ-BRRO to conduct additional investigation of a petroleum release in the area and if necessary, perform corrective actions. The work will generally consist of sampling on and off-site drinking water wells, installation of groundwater monitoring wells, replacement of the impacted drinking water well (if necessary), and potential removal of the petroleum source (underground storage tanks). This requested work will be conducted under Pollution Complaint (PC) #2024-2089.

If you have any questions regarding this request, please contact Shanna Hryvniak at (804) 369-7963 or Jim Trimbie at (804) 814-7322. For additional information, you may also contact the DEQ-BRRO case manager, Mr. David Kirby at (540) 598-1502.

Sincerely,

Shanna Hryvniak
Project Manager

Please print and sign your name below if you agree to grant TEC access to your property. You can also scan and return this document to me at shryvniak@teci.pro. We thank you in advance for your permission and this agreement.

Print Name: Donald Holland

Signed: Donald R. Holland

Date: 11-16-23 Phone #: 540 314 1185

Email: _____



Appendix B

Laboratory Analytical Report (11/6/2023)



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 23K0242

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove Rest.

Date Received: November 6, 2023 15:25

Date Issued: November 8, 2023 16:04

Project Number: [none]

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory on 11/06/2023 15:25. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: November 08, 2023 16:04
8382 Terminal Rd, Bay B Project Number: [none]
Lorton VA, 22079 Purchase Order:
Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers Cove Rest.

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23K0242

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-1	23K0242-01	Ground Water	11/06/2023 09:26	11/06/2023 15:25
SW-1	23K0242-02	Ground Water	11/06/2023 09:30	11/06/2023 15:25
Trip Blank	23K0242-03	Ground Water	11/03/2023 10:15	11/06/2023 15:25



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: November 08, 2023 16:04
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Submitted To: Lorton VA, 22079 Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-01
 Grab Date/Time: 11/06/2023 09:26
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	11/07/23 09:00	11/07/23 20:31	ZDR
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L	C	50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-01
 Grab Date/Time: 11/06/2023 09:26
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzoic acid	01	SW8270E	<50.0 ug/L	C	50.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-01
 Grab Date/Time: 11/06/2023 09:26
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	11/07/23 09:00	11/07/23 20:31	ZDR
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	11/07/23 09:00	11/07/23 20:31	ZDR
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L	C	10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Naphthalene	01	SW8270E	44.3 ug/L		5.00	1	11/07/23 09:00	11/07/23 20:31	ZDR
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-01
 Grab Date/Time: 11/06/2023 09:26
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	11/07/23 09:00	11/07/23 20:31	ZDR
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Pentachlorophenol	01	SW8270E	<20.0 ug/L	C	20.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	11/07/23 09:00	11/07/23 20:31	ZDR
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	84.0 %		5-136		11/07/23 09:00	11/07/23 20:31	ZDR
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	43.8 %		9-117		11/07/23 09:00	11/07/23 20:31	ZDR
Surr: 2-Fluorophenol (Surr)	01	SW8270E	0.470 %	S	5-60		11/07/23 09:00	11/07/23 20:31	ZDR
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	83.9 %		5-151		11/07/23 09:00	11/07/23 20:31	ZDR
Surr: Phenol-d5 (Surr)	01	SW8270E	0.210 %	S	5-60		11/07/23 09:00	11/07/23 20:31	ZDR
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	33.6 %		5-141		11/07/23 09:00	11/07/23 20:31	ZDR



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-02
 Grab Date/Time: 11/06/2023 09:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2,4-Trimethylbenzene	02	SW8260D	296 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
1,3,5-Trimethylbenzene	02	SW8260D	133 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
2-Butanone (MEK)	02	SW8260D	13.6 ug/L		10.0	1	11/06/23 17:19	11/06/23 17:19	CGN
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
2-Hexanone (MBK)	02	SW8260D	13.3 ug/L		5.00	1	11/06/23 17:19	11/06/23 17:19	CGN
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
4-Isopropyltoluene	02	SW8260D	1.72 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 08, 2023 16:04
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rest.		

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1	Laboratory Sample ID: 23K0242-02
Grab Date/Time: 11/06/2023 09:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Acetone	02	SW8260D	29.2 ug/L		10.0	1	11/06/23 17:19	11/06/23 17:19	CGN
Benzene	02	SW8260D	217 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	11/06/23 17:19	11/06/23 17:19	CGN
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Di-isopropyl ether (DIPE)	02	SW8260D	17.3 ug/L		5.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Ethylbenzene	02	SW8260D	93.3 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	11/06/23 17:19	11/06/23 17:19	CGN
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	11/06/23 17:19	11/06/23 17:19	CGN
Isopropylbenzene	02	SW8260D	21.9 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
m+p-Xylenes	02	SW8260D	659 ug/L		2.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	11/06/23 17:19	11/06/23 17:19	CGN



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-02
 Grab Date/Time: 11/06/2023 09:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methyl-t-butyl ether (MTBE)	02RE1	SW8260D	6500 ug/L		100	100	11/07/23 21:12	11/07/23 21:12	CGN
Naphthalene	02	SW8260D	93.9 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
n-Butylbenzene	02	SW8260D	4.69 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
n-Propylbenzene	02	SW8260D	41.0 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
o-Xylene	02	SW8260D	377 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
sec-Butylbenzene	02	SW8260D	104 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Toluene	02	SW8260D	307 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	11/06/23 17:19	11/06/23 17:19	CGN
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	11/06/23 17:19	11/06/23 17:19	CGN
Xylenes, Total	02	SW8260D	1040 ug/L		3.00	1	11/06/23 17:19	11/06/23 17:19	CGN
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	111 %		70-120		11/06/23 17:19	11/06/23 17:19	CGN
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	111 %		75-120		11/06/23 17:19	11/06/23 17:19	CGN
Surr: Dibromofluoromethane (Surr)	02	SW8260D	111 %		70-130		11/06/23 17:19	11/06/23 17:19	CGN
Surr: Toluene-d8 (Surr)	02	SW8260D	99.3 %		70-130		11/06/23 17:19	11/06/23 17:19	CGN
Surr: 1,2-Dichloroethane-d4 (Surr)	02RE1	SW8260D	93.0 %		70-120		11/07/23 21:12	11/07/23 21:12	CGN
Surr: 4-Bromofluorobenzene (Surr)	02RE1	SW8260D	98.6 %		75-120		11/07/23 21:12	11/07/23 21:12	CGN



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. SW-1 Laboratory Sample ID: 23K0242-02
 Grab Date/Time: 11/06/2023 09:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS								
Surr: Dibromofluoromethane (Surr)	02RE1	SW8260D	92.2 %		70-130	11/07/23 21:12	11/07/23 21:12	CGN
Surr: Toluene-d8 (Surr)	02RE1	SW8260D	99.1 %		70-130	11/07/23 21:12	11/07/23 21:12	CGN



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23K0242-03
 Grab Date/Time: 11/03/2023 10:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	11/06/23 16:55	11/06/23 16:55	CGN
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	11/06/23 16:55	11/06/23 16:55	CGN
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: November 08, 2023 16:04
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Submitted To: Lorton VA, 22079 Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23K0242-03
 Grab Date/Time: 11/03/2023 10:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	11/06/23 16:55	11/06/23 16:55	CGN
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	11/06/23 16:55	11/06/23 16:55	CGN
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	11/06/23 16:55	11/06/23 16:55	CGN
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	11/06/23 16:55	11/06/23 16:55	CGN
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	11/06/23 16:55	11/06/23 16:55	CGN



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 08, 2023 16:04
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rest.		

Laboratory Order ID: 23K0242

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23K0242-03
Grab Date/Time: 11/03/2023 10:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Methyl-t-butyl ether (MTBE)	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	11/06/23 16:55	11/06/23 16:55	CGN
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	11/06/23 16:55	11/06/23 16:55	CGN
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	11/06/23 16:55	11/06/23 16:55	CGN
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	107 %		70-120		11/06/23 16:55	11/06/23 16:55	CGN
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	99.8 %		75-120		11/06/23 16:55	11/06/23 16:55	CGN
Surr: Dibromofluoromethane (Surr)	03	SW8260D	113 %		70-130		11/06/23 16:55	11/06/23 16:55	CGN
Surr: Toluene-d8 (Surr)	03	SW8260D	101 %		70-130		11/06/23 16:55	11/06/23 16:55	CGN



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method:		SW3510C/EPA600-MS	
23K0242-01	1070 mL / 1.00 mL	SW8270E	BGK0266	SGK0301	AE30336
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method:		SW5030B-MS	
23K0242-02	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
23K0242-03	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
Volatile Organic Compounds by GCMS		Preparation Method:		SW5030B-MS	
23K0242-02RE1	5.00 mL / 5.00 mL	SW8260D	BGK0282	SGK0294	AJ30373



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: November 08, 2023 16:04
Project Number: [none]
Purchase Order:

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers Cove
Rest.

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGK0266-BLK1	1000 mL / 1.00 mL	SW8270E	BGK0266	SGK0301	AE30336
BGK0266-BS1	1000 mL / 1.00 mL	SW8270E	BGK0266	SGK0301	AE30336
BGK0266-MRL1	1000 mL / 1.00 mL	SW8270E	BGK0266	SGK0301	AE30336

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGK0223-BLK1	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
BGK0223-BS1	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
BGK0223-MS1	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
BGK0223-MSD1	5.00 mL / 5.00 mL	SW8260D	BGK0223	SGK0217	AG30233
BGK0282-BLK1	5.00 mL / 5.00 mL	SW8260D	BGK0282	SGK0294	AJ30373
BGK0282-BS1	5.00 mL / 5.00 mL	SW8260D	BGK0282	SGK0294	AJ30373
BGK0282-DUP1	5.00 mL / 5.00 mL	SW8260D	BGK0282	SGK0294	AJ30373
BGK0282-MS1	5.00 mL / 5.00 mL	SW8260D	BGK0282	SGK0294	AJ30373



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Blank (BGK0223-BLK1)

Prepared & Analyzed: 11/06/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Blank (BGK0223-BLK1)

Prepared & Analyzed: 11/06/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	9.48 ug/L	4.00	ug/L							B
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Blank (BGK0223-BLK1)

Prepared & Analyzed: 11/06/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	54.3		ug/L	50.0		109	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.9		ug/L	50.0		99.8	75-120			
Surr: Dibromofluoromethane (Surr)	55.5		ug/L	50.0		111	70-130			
Surr: Toluene-d8 (Surr)	50.0		ug/L	50.0		100	70-130			

LCS (BGK0223-BS1)

Prepared & Analyzed: 11/06/2023

1,1,1,2-Tetrachloroethane	48.8 ug/L	0.4	ug/L	50.0	ug/L	97.7	80-130			
1,1,1-Trichloroethane	63.0 ug/L	1	ug/L	50.0	ug/L	126	65-130			
1,1,2,2-Tetrachloroethane	44.6 ug/L	0.4	ug/L	50.0	ug/L	89.2	65-130			
1,1,2-Trichloroethane	51.7 ug/L	1	ug/L	50.0	ug/L	103	75-125			
1,1-Dichloroethane	54.8 ug/L	1	ug/L	50.0	ug/L	110	70-135			
1,1-Dichloroethylene	52.6 ug/L	1	ug/L	50.0	ug/L	105	70-130			
1,1-Dichloropropene	61.4 ug/L	1	ug/L	50.0	ug/L	123	75-135			
1,2,3-Trichlorobenzene	46.3 ug/L	1	ug/L	50.0	ug/L	92.6	55-140			
1,2,3-Trichloropropane	42.6 ug/L	1	ug/L	50.0	ug/L	85.2	75-125			
1,2,4-Trichlorobenzene	47.1 ug/L	1	ug/L	50.0	ug/L	94.2	65-135			
1,2,4-Trimethylbenzene	52.3 ug/L	1	ug/L	50.0	ug/L	105	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	41.1 ug/L	1	ug/L	50.0	ug/L	82.2	50-130			
1,2-Dibromoethane (EDB)	49.1 ug/L	1	ug/L	50.0	ug/L	98.2	80-120			
1,2-Dichlorobenzene	50.2 ug/L	0.5	ug/L	50.0	ug/L	100	70-120			
1,2-Dichloroethane	56.6 ug/L	1	ug/L	50.0	ug/L	113	70-130			
1,2-Dichloropropane	49.0 ug/L	0.5	ug/L	50.0	ug/L	98.0	75-125			
1,3,5-Trimethylbenzene	50.2 ug/L	1	ug/L	50.0	ug/L	100	75-125			
1,3-Dichlorobenzene	48.4 ug/L	1	ug/L	50.0	ug/L	96.8	75-125			
1,3-Dichloropropane	49.9 ug/L	1	ug/L	50.0	ug/L	99.7	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 08, 2023 16:04
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

LCS (BGK0223-BS1)

Prepared & Analyzed: 11/06/2023

1,4-Dichlorobenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.1	75-125		
2,2-Dichloropropane	55.1 ug/L	1	ug/L	50.0	ug/L	110	70-135		
2-Butanone (MEK)	42.1 ug/L	10	ug/L	50.0	ug/L	84.1	30-150		
2-Chlorotoluene	47.3 ug/L	1	ug/L	50.0	ug/L	94.6	75-125		
2-Hexanone (MBK)	35.8 ug/L	5	ug/L	50.0	ug/L	71.6	55-130		
4-Chlorotoluene	49.2 ug/L	1	ug/L	50.0	ug/L	98.5	75-130		
4-Isopropyltoluene	53.7 ug/L	1	ug/L	50.0	ug/L	107	75-130		
4-Methyl-2-pentanone (MIBK)	35.5 ug/L	5	ug/L	50.0	ug/L	70.9	60-135		
Acetone	31.1 ug/L	10	ug/L	50.0	ug/L	62.2	40-140		
Benzene	50.4 ug/L	1	ug/L	50.0	ug/L	101	80-120		
Bromobenzene	48.8 ug/L	1	ug/L	50.0	ug/L	97.5	75-125		
Bromochloromethane	62.5 ug/L	1	ug/L	50.0	ug/L	125	65-130		
Bromodichloromethane	53.7 ug/L	0.5	ug/L	50.0	ug/L	107	75-120		
Bromoform	45.5 ug/L	1	ug/L	50.0	ug/L	90.9	70-130		
Bromomethane	36.5 ug/L	1	ug/L	50.0	ug/L	72.9	30-145		
Carbon disulfide	48.6 ug/L	10	ug/L	50.0	ug/L	97.3	35-160		
Carbon tetrachloride	53.3 ug/L	1	ug/L	50.0	ug/L	107	65-140		
Chlorobenzene	49.4 ug/L	1	ug/L	50.0	ug/L	98.7	80-120		
Chloroethane	41.4 ug/L	1	ug/L	50.0	ug/L	82.7	60-135		
Chloroform	56.4 ug/L	0.5	ug/L	50.0	ug/L	113	65-135		
Chloromethane	43.5 ug/L	1	ug/L	50.0	ug/L	86.9	40-125		
cis-1,2-Dichloroethylene	59.0 ug/L	1	ug/L	50.0	ug/L	118	70-125		
cis-1,3-Dichloropropene	51.7 ug/L	1	ug/L	50.0	ug/L	103	70-130		
Dibromochloromethane	54.3 ug/L	0.5	ug/L	50.0	ug/L	109	60-135		
Dibromomethane	52.4 ug/L	1	ug/L	50.0	ug/L	105	75-125		
Dichlorodifluoromethane	39.7 ug/L	1	ug/L	50.0	ug/L	79.4	30-155		
Ethylbenzene	48.0 ug/L	1	ug/L	50.0	ug/L	96.0	75-125		
Hexachlorobutadiene	46.5 ug/L	0.8	ug/L	50.0	ug/L	93.0	50-140		
Isopropylbenzene	46.1 ug/L	1	ug/L	50.0	ug/L	92.2	75-125		
m+p-Xylenes	92.6 ug/L	2	ug/L	100	ug/L	92.6	75-130		
Methylene chloride	62.9 ug/L	4	ug/L	50.0	ug/L	126	55-140		



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

LCS (BGK0223-BS1)

Prepared & Analyzed: 11/06/2023

Methyl-t-butyl ether (MTBE)	61.2 ug/L	1	ug/L	50.0	ug/L	122	65-125			
Naphthalene	48.6 ug/L	1	ug/L	50.0	ug/L	97.2	55-140			
n-Butylbenzene	51.1 ug/L	1	ug/L	50.0	ug/L	102	70-135			
n-Propylbenzene	47.6 ug/L	1	ug/L	50.0	ug/L	95.2	70-130			
o-Xylene	49.4 ug/L	1	ug/L	50.0	ug/L	98.7	80-120			
sec-Butylbenzene	43.2 ug/L	1	ug/L	50.0	ug/L	86.3	70-125			
Styrene	46.8 ug/L	1	ug/L	50.0	ug/L	93.7	65-135			
tert-Butylbenzene	50.8 ug/L	1	ug/L	50.0	ug/L	102	70-130			
Tetrachloroethylene (PCE)	40.0 ug/L	1	ug/L	50.0	ug/L	79.9	45-150			
Toluene	51.4 ug/L	1	ug/L	50.0	ug/L	103	75-120			
trans-1,2-Dichloroethylene	59.2 ug/L	1	ug/L	50.0	ug/L	118	60-140			
trans-1,3-Dichloropropene	53.4 ug/L	1	ug/L	50.0	ug/L	107	55-140			
Trichloroethylene	52.0 ug/L	1	ug/L	50.0	ug/L	104	70-125			
Trichlorofluoromethane	50.5 ug/L	1	ug/L	50.0	ug/L	101	60-145			
Vinyl chloride	42.7 ug/L	0.5	ug/L	50.0	ug/L	85.5	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	60.4		ug/L	50.0	ug/L	121	70-120			S
Surr: 4-Bromofluorobenzene (Surr)	51.1		ug/L	50.0	ug/L	102	75-120			
Surr: Dibromofluoromethane (Surr)	60.3		ug/L	50.0	ug/L	121	70-130			
Surr: Toluene-d8 (Surr)	50.1		ug/L	50.0	ug/L	100	70-130			

Matrix Spike (BGK0223-MS1)

Source: 23K0205-06

Prepared & Analyzed: 11/06/2023

1,1,1,2-Tetrachloroethane	48.5 ug/L	0.4	ug/L	50.0	<0.4 ug/L	97.0	80-130			
1,1,1-Trichloroethane	59.9 ug/L	1	ug/L	50.0	<1 ug/L	120	65-130			
1,1,2,2-Tetrachloroethane	45.3 ug/L	0.4	ug/L	50.0	<0.4 ug/L	90.6	65-130			
1,1,2-Trichloroethane	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
1,1-Dichloroethane	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	70-135			
1,1-Dichloroethylene	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	50-145			
1,1-Dichloropropene	58.8 ug/L	1	ug/L	50.0	<1 ug/L	118	75-135			
1,2,3-Trichlorobenzene	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.6	55-140			
1,2,3-Trichloropropane	44.2 ug/L	1	ug/L	50.0	<1 ug/L	88.4	75-125			
1,2,4-Trichlorobenzene	47.8 ug/L	1	ug/L	50.0	<1 ug/L	95.6	65-135			
1,2,4-Trimethylbenzene	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	75-130			



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 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Matrix Spike (BGK0223-MS1)

Source: 23K0205-06

Prepared & Analyzed: 11/06/2023

1,2-Dibromo-3-chloropropane (DBCP)	43.9 ug/L	1	ug/L	50.0	<1 ug/L	87.9	50-130			
1,2-Dibromoethane (EDB)	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
1,2-Dichlorobenzene	51.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	102	70-120			
1,2-Dichloroethane	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	70-130			
1,2-Dichloropropane	49.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.3	75-125			
1,3,5-Trimethylbenzene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124			
1,3-Dichlorobenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	75-125			
1,3-Dichloropropane	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125			
1,4-Dichlorobenzene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
2,2-Dichloropropane	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	70-135			
2-Butanone (MEK)	45.7 ug/L	10	ug/L	50.0	<10 ug/L	91.3	30-150			
2-Chlorotoluene	48.1 ug/L	1	ug/L	50.0	<1 ug/L	96.1	75-125			
2-Hexanone (MBK)	35.2 ug/L	5	ug/L	50.0	<5 ug/L	70.3	55-130			
4-Chlorotoluene	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.8	75-130			
4-Isopropyltoluene	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	75-130			
4-Methyl-2-pentanone (MIBK)	37.5 ug/L	5	ug/L	50.0	<5 ug/L	75.0	60-135			
Acetone	37.0 ug/L	10	ug/L	50.0	<10 ug/L	74.0	40-140			
Benzene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120			
Bromobenzene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.6	75-125			
Bromochloromethane	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	65-130			
Bromodichloromethane	55.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	111	75-136			
Bromoform	47.1 ug/L	1	ug/L	50.0	<1 ug/L	94.1	70-130			
Bromomethane	33.8 ug/L	1	ug/L	50.0	<1 ug/L	67.6	30-145			
Carbon disulfide	45.6 ug/L	10	ug/L	50.0	<10 ug/L	90.3	35-160			
Carbon tetrachloride	55.1 ug/L	1	ug/L	50.0	<1 ug/L	110	65-140			
Chlorobenzene	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120			
Chloroethane	39.8 ug/L	1	ug/L	50.0	<1 ug/L	79.6	60-135			
Chloroform	54.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	108	65-135			
Chloromethane	40.9 ug/L	1	ug/L	50.0	<1 ug/L	81.9	40-125			
cis-1,2-Dichloroethylene	56.1 ug/L	1	ug/L	50.0	<1 ug/L	112	70-125			
cis-1,3-Dichloropropene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	47-136			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 08, 2023 16:04
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rest.		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Matrix Spike (BGK0223-MS1)	Source: 23K0205-06			Prepared & Analyzed: 11/06/2023						
Dibromochloromethane	54.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	110	60-135			
Dibromomethane	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	75-125			
Dichlorodifluoromethane	38.0 ug/L	1	ug/L	50.0	<1 ug/L	75.9	30-155			
Ethylbenzene	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	75-125			
Hexachlorobutadiene	47.4 ug/L	0.8	ug/L	50.0	<0.8 ug/L	94.7	50-140			
Isopropylbenzene	46.5 ug/L	1	ug/L	50.0	<1 ug/L	93.0	75-125			
m+p-Xylenes	94.0 ug/L	2	ug/L	100	<2 ug/L	94.0	75-130			
Methylene chloride	54.6 ug/L	4	ug/L	50.0	6.58 ug/L	96.1	55-140			
Methyl-t-butyl ether (MTBE)	57.8 ug/L	1	ug/L	50.0	<1 ug/L	116	65-125			
Naphthalene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.6	55-140			
n-Butylbenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	70-135			
n-Propylbenzene	48.0 ug/L	1	ug/L	50.0	<1 ug/L	95.9	70-130			
o-Xylene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
sec-Butylbenzene	43.9 ug/L	1	ug/L	50.0	<1 ug/L	87.9	70-125			
Styrene	47.6 ug/L	1	ug/L	50.0	<1 ug/L	95.2	65-135			
tert-Butylbenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	70-130			
Tetrachloroethylene (PCE)	38.8 ug/L	1	ug/L	50.0	<1 ug/L	77.7	51-231			
Toluene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-120			
trans-1,2-Dichloroethylene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	60-140			
trans-1,3-Dichloropropene	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	55-140			
Trichloroethylene	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	70-125			
Trichlorofluoromethane	48.0 ug/L	1	ug/L	50.0	<1 ug/L	96.0	60-145			
Vinyl chloride	39.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	79.2	50-145			
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	57.5		ug/L	50.0	ug/L	115	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.8		ug/L	50.0	ug/L	102	75-120			
Surr: Dibromofluoromethane (Surr)	56.6		ug/L	50.0	ug/L	113	70-130			
Surr: Toluene-d8 (Surr)	50.3		ug/L	50.0	ug/L	101	70-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Matrix Spike Dup (BGK0223-MSD1)

Source: 23K0205-06

Prepared & Analyzed: 11/06/2023

1,1,1,2-Tetrachloroethane	49.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	99.4	80-130	2.42	30	
1,1,1-Trichloroethane	61.3 ug/L	1	ug/L	50.0	<1 ug/L	123	65-130	2.28	30	
1,1,2,2-Tetrachloroethane	46.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	93.3	65-130	2.98	30	
1,1,2-Trichloroethane	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	75-125	2.93	30	
1,1-Dichloroethane	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	70-135	4.04	30	
1,1-Dichloroethylene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	50-145	0.601	30	
1,1-Dichloropropene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	75-135	1.13	30	
1,2,3-Trichlorobenzene	47.7 ug/L	1	ug/L	50.0	<1 ug/L	95.4	55-140	1.88	30	
1,2,3-Trichloropropane	46.2 ug/L	1	ug/L	50.0	<1 ug/L	92.3	75-125	4.41	30	
1,2,4-Trichlorobenzene	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.3	65-135	0.730	30	
1,2,4-Trimethylbenzene	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130	2.04	30	
1,2-Dibromo-3-chloropropane (DBCP)	45.2 ug/L	1	ug/L	50.0	<1 ug/L	90.5	50-130	2.92	30	
1,2-Dibromoethane (EDB)	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	80-120	3.84	30	
1,2-Dichlorobenzene	51.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	103	70-120	1.05	30	
1,2-Dichloroethane	54.2 ug/L	1	ug/L	50.0	<1 ug/L	108	70-130	3.68	30	
1,2-Dichloropropane	50.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	102	75-125	2.49	30	
1,3,5-Trimethylbenzene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124	0.0587	30	
1,3-Dichlorobenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	75-125	0.0403	30	
1,3-Dichloropropane	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125	3.11	30	
1,4-Dichlorobenzene	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125	0.117	30	
2,2-Dichloropropane	54.2 ug/L	1	ug/L	50.0	<1 ug/L	108	70-135	2.79	30	
2-Butanone (MEK)	48.0 ug/L	10	ug/L	50.0	<10 ug/L	96.1	30-150	5.08	30	
2-Chlorotoluene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.6	75-125	1.53	30	
2-Hexanone (MBK)	36.7 ug/L	5	ug/L	50.0	<5 ug/L	73.4	55-130	4.26	30	
4-Chlorotoluene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-130	1.95	30	
4-Isopropyltoluene	54.7 ug/L	1	ug/L	50.0	<1 ug/L	109	75-130	0.624	30	
4-Methyl-2-pentanone (MIBK)	38.1 ug/L	5	ug/L	50.0	<5 ug/L	76.1	60-135	1.56	30	
Acetone	39.0 ug/L	10	ug/L	50.0	<10 ug/L	77.9	40-140	5.16	30	
Benzene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	80-120	2.26	30	
Bromobenzene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125	3.72	30	
Bromochloromethane	60.3 ug/L	1	ug/L	50.0	<1 ug/L	121	65-130	2.10	30	



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Matrix Spike Dup (BGK0223-MSD1)	Source: 23K0205-06			Prepared & Analyzed: 11/06/2023						
Bromodichloromethane	56.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	113	75-136	1.83	30	
Bromoform	47.8 ug/L	1	ug/L	50.0	<1 ug/L	95.6	70-130	1.56	30	
Bromomethane	33.9 ug/L	1	ug/L	50.0	<1 ug/L	67.8	30-145	0.355	30	
Carbon disulfide	45.2 ug/L	10	ug/L	50.0	<10 ug/L	89.6	35-160	0.793	30	
Carbon tetrachloride	55.4 ug/L	1	ug/L	50.0	<1 ug/L	111	65-140	0.525	30	
Chlorobenzene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	80-120	2.21	30	
Chloroethane	39.9 ug/L	1	ug/L	50.0	<1 ug/L	79.9	60-135	0.301	30	
Chloroform	55.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	110	65-135	2.13	30	
Chloromethane	40.4 ug/L	1	ug/L	50.0	<1 ug/L	80.9	40-125	1.20	30	
cis-1,2-Dichloroethylene	59.2 ug/L	1	ug/L	50.0	<1 ug/L	118	70-125	5.34	30	
cis-1,3-Dichloropropene	53.5 ug/L	1	ug/L	50.0	<1 ug/L	107	47-136	2.55	30	
Dibromochloromethane	56.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	113	60-135	3.28	30	
Dibromomethane	56.4 ug/L	1	ug/L	50.0	<1 ug/L	113	75-125	3.37	30	
Dichlorodifluoromethane	38.6 ug/L	1	ug/L	50.0	<1 ug/L	77.2	30-155	1.67	30	
Ethylbenzene	49.1 ug/L	1	ug/L	50.0	<1 ug/L	98.2	75-125	0.163	30	
Hexachlorobutadiene	47.3 ug/L	0.8	ug/L	50.0	<0.8 ug/L	94.6	50-140	0.0634	30	
Isopropylbenzene	47.3 ug/L	1	ug/L	50.0	<1 ug/L	94.6	75-125	1.71	30	
m+p-Xylenes	94.9 ug/L	2	ug/L	100	<2 ug/L	94.9	75-130	1.03	30	
Methylene chloride	55.1 ug/L	4	ug/L	50.0	6.58 ug/L	97.0	55-140	0.802	30	
Methyl-t-butyl ether (MTBE)	60.0 ug/L	1	ug/L	50.0	<1 ug/L	120	65-125	3.58	30	
Naphthalene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	55-140	2.71	30	
n-Butylbenzene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	70-135	0.346	30	
n-Propylbenzene	48.9 ug/L	1	ug/L	50.0	<1 ug/L	97.8	70-130	1.90	30	
o-Xylene	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	80-120	1.34	30	
sec-Butylbenzene	42.8 ug/L	1	ug/L	50.0	<1 ug/L	85.7	70-125	2.56	30	
Styrene	47.9 ug/L	1	ug/L	50.0	<1 ug/L	95.9	65-135	0.733	30	
tert-Butylbenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	70-130	0.0575	30	
Tetrachloroethylene (PCE)	39.3 ug/L	1	ug/L	50.0	<1 ug/L	78.6	51-231	1.20	30	
Toluene	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	75-120	2.27	30	
trans-1,2-Dichloroethylene	58.1 ug/L	1	ug/L	50.0	<1 ug/L	116	60-140	13.5	30	
trans-1,3-Dichloropropene	55.6 ug/L	1	ug/L	50.0	<1 ug/L	111	55-140	1.59	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0223 - SW5030B-MS

Matrix Spike Dup (BGK0223-MSD1)

Source: 23K0205-06

Prepared & Analyzed: 11/06/2023

Trichloroethylene	54.0 ug/L	1	ug/L	50.0	<1 ug/L	108	70-125	0.241	30	
Trichlorofluoromethane	45.4 ug/L	1	ug/L	50.0	<1 ug/L	90.8	60-145	5.52	30	
Vinyl chloride	39.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	79.3	50-145	0.227	30	
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Surr: 1,2-Dichloroethane-d4 (Surr)	56.5		ug/L	50.0	ug/L	113	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.4		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	56.0		ug/L	50.0	ug/L	112	70-130			
Surr: Toluene-d8 (Surr)	50.2		ug/L	50.0	ug/L	100	70-130			

Batch BGK0282 - SW5030B-MS

Blank (BGK0282-BLK1)

Prepared & Analyzed: 11/07/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							



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Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Blank (BGK0282-BLK1)

Prepared & Analyzed: 11/07/2023

2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							
Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							



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Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Blank (BGK0282-BLK1)

Prepared & Analyzed: 11/07/2023

Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	49.4		ug/L	50.0		98.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.8		ug/L	50.0		102	75-120			
Surr: Dibromofluoromethane (Surr)	51.0		ug/L	50.0		102	70-130			
Surr: Toluene-d8 (Surr)	49.9		ug/L	50.0		99.7	70-130			

LCS (BGK0282-BS1)

Prepared & Analyzed: 11/07/2023

1,1,1,2-Tetrachloroethane	50.7 ug/L	0.4	ug/L	50.0	ug/L	101	80-130			
1,1,1-Trichloroethane	55.6 ug/L	1	ug/L	50.0	ug/L	111	65-130			
1,1,2,2-Tetrachloroethane	53.2 ug/L	0.4	ug/L	50.0	ug/L	106	65-130			
1,1,2-Trichloroethane	52.5 ug/L	1	ug/L	50.0	ug/L	105	75-125			
1,1-Dichloroethane	51.8 ug/L	1	ug/L	50.0	ug/L	104	70-135			
1,1-Dichloroethylene	58.8 ug/L	1	ug/L	50.0	ug/L	118	70-130			
1,1-Dichloropropene	57.6 ug/L	1	ug/L	50.0	ug/L	115	75-135			
1,2,3-Trichlorobenzene	63.0 ug/L	1	ug/L	50.0	ug/L	126	55-140			



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Certificate of Analysis

Final Report

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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

LCS (BGK0282-BS1)

Prepared & Analyzed: 11/07/2023

1,2,3-Trichloropropane	52.0 ug/L	1	ug/L	50.0	ug/L	104	75-125			
1,2,4-Trichlorobenzene	60.9 ug/L	1	ug/L	50.0	ug/L	122	65-135			
1,2,4-Trimethylbenzene	54.6 ug/L	1	ug/L	50.0	ug/L	109	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	56.6 ug/L	1	ug/L	50.0	ug/L	113	50-130			
1,2-Dibromoethane (EDB)	52.1 ug/L	1	ug/L	50.0	ug/L	104	80-120			
1,2-Dichlorobenzene	53.6 ug/L	0.5	ug/L	50.0	ug/L	107	70-120			
1,2-Dichloroethane	55.8 ug/L	1	ug/L	50.0	ug/L	112	70-130			
1,2-Dichloropropane	50.9 ug/L	0.5	ug/L	50.0	ug/L	102	75-125			
1,3,5-Trimethylbenzene	53.2 ug/L	1	ug/L	50.0	ug/L	106	75-125			
1,3-Dichlorobenzene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-125			
1,3-Dichloropropane	50.3 ug/L	1	ug/L	50.0	ug/L	101	75-125			
1,4-Dichlorobenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	75-125			
2,2-Dichloropropane	57.7 ug/L	1	ug/L	50.0	ug/L	115	70-135			
2-Butanone (MEK)	47.9 ug/L	10	ug/L	50.0	ug/L	95.8	30-150			
2-Chlorotoluene	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
2-Hexanone (MBK)	59.0 ug/L	5	ug/L	50.0	ug/L	118	55-130			
4-Chlorotoluene	51.8 ug/L	1	ug/L	50.0	ug/L	104	75-130			
4-Isopropyltoluene	57.7 ug/L	1	ug/L	50.0	ug/L	115	75-130			
4-Methyl-2-pentanone (MIBK)	57.2 ug/L	5	ug/L	50.0	ug/L	114	60-135			
Acetone	55.6 ug/L	10	ug/L	50.0	ug/L	111	40-140			
Benzene	48.8 ug/L	1	ug/L	50.0	ug/L	97.6	80-120			
Bromobenzene	51.1 ug/L	1	ug/L	50.0	ug/L	102	75-125			
Bromochloromethane	45.3 ug/L	1	ug/L	50.0	ug/L	90.7	65-130			
Bromodichloromethane	55.0 ug/L	0.5	ug/L	50.0	ug/L	110	75-120			
Bromoform	49.1 ug/L	1	ug/L	50.0	ug/L	98.1	70-130			
Bromomethane	41.3 ug/L	1	ug/L	50.0	ug/L	82.7	30-145			
Carbon disulfide	71.2 ug/L	10	ug/L	50.0	ug/L	142	35-160			
Carbon tetrachloride	60.8 ug/L	1	ug/L	50.0	ug/L	122	65-140			
Chlorobenzene	52.1 ug/L	1	ug/L	50.0	ug/L	104	80-120			
Chloroethane	55.3 ug/L	1	ug/L	50.0	ug/L	111	60-135			
Chloroform	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	65-135			



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Date Issued: November 08, 2023 16:04
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 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

LCS (BGK0282-BS1)

Prepared & Analyzed: 11/07/2023

Chloromethane	48.5 ug/L	1	ug/L	50.0	ug/L	96.9	40-125			
cis-1,2-Dichloroethylene	48.2 ug/L	1	ug/L	50.0	ug/L	96.4	70-125			
cis-1,3-Dichloropropene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-130			
Dibromochloromethane	51.4 ug/L	0.5	ug/L	50.0	ug/L	103	60-135			
Dibromomethane	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
Dichlorodifluoromethane	59.7 ug/L	1	ug/L	50.0	ug/L	119	30-155			
Ethylbenzene	55.2 ug/L	1	ug/L	50.0	ug/L	110	75-125			
Hexachlorobutadiene	64.4 ug/L	0.8	ug/L	50.0	ug/L	129	50-140			
Isopropylbenzene	52.6 ug/L	1	ug/L	50.0	ug/L	105	75-125			
m+p-Xylenes	108 ug/L	2	ug/L	100	ug/L	108	75-130			
Methylene chloride	62.6 ug/L	4	ug/L	50.0	ug/L	125	55-140			
Methyl-t-butyl ether (MTBE)	47.8 ug/L	1	ug/L	50.0	ug/L	95.7	65-125			
Naphthalene	61.5 ug/L	1	ug/L	50.0	ug/L	123	55-140			
n-Butylbenzene	60.4 ug/L	1	ug/L	50.0	ug/L	121	70-135			
n-Propylbenzene	55.1 ug/L	1	ug/L	50.0	ug/L	110	70-130			
o-Xylene	53.4 ug/L	1	ug/L	50.0	ug/L	107	80-120			
sec-Butylbenzene	62.4 ug/L	1	ug/L	50.0	ug/L	125	70-125			
Styrene	50.0 ug/L	1	ug/L	50.0	ug/L	100	65-135			
tert-Butylbenzene	56.1 ug/L	1	ug/L	50.0	ug/L	112	70-130			
Tetrachloroethylene (PCE)	57.7 ug/L	1	ug/L	50.0	ug/L	115	45-150			
Toluene	52.0 ug/L	1	ug/L	50.0	ug/L	104	75-120			
trans-1,2-Dichloroethylene	49.0 ug/L	1	ug/L	50.0	ug/L	98.0	60-140			
trans-1,3-Dichloropropene	56.2 ug/L	1	ug/L	50.0	ug/L	112	55-140			
Trichloroethylene	53.2 ug/L	1	ug/L	50.0	ug/L	106	70-125			
Trichlorofluoromethane	70.2 ug/L	1	ug/L	50.0	ug/L	140	60-145			
Vinyl chloride	59.9 ug/L	0.5	ug/L	50.0	ug/L	120	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	46.0		ug/L	50.0	ug/L	91.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.8		ug/L	50.0	ug/L	102	75-120			
Surr: Dibromofluoromethane (Surr)	49.7		ug/L	50.0	ug/L	99.4	70-130			
Surr: Toluene-d8 (Surr)	49.4		ug/L	50.0	ug/L	98.9	70-130			



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Duplicate (BGK0282-DUP1)

Source: 23K0233-01

Prepared & Analyzed: 11/07/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40 ug/L				NA	30	
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40 ug/L				NA	30	
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Acetone	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Benzene	<1.00 ug/L	1.00	ug/L	1.04 ug/L				NA	30	
Bromobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromochloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Duplicate (BGK0282-DUP1)

Source: 23K0233-01

Prepared & Analyzed: 11/07/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Bromoform	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Carbon disulfide	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroform	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Chloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,2-Dichloroethylene	3.16 ug/L	1.00	ug/L	3.90 ug/L				21.0	30	
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dibromochloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Dibromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Ethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L	<0.80 ug/L				NA	30	
Iodomethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Isopropylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
m+p-Xylenes	<2.00 ug/L	2.00	ug/L	<2.00 ug/L				NA	30	
Methylene chloride	<4.00 ug/L	4.00	ug/L	<4.00 ug/L				NA	30	
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Naphthalene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Propylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
o-Xylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Styrene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Toluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Duplicate (BGK0282-DUP1)

Source: 23K0233-01

Prepared & Analyzed: 11/07/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Vinyl acetate	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Vinyl chloride	10.2 ug/L	0.50	ug/L	14.2 ug/L				32.3	30	P
Xylenes, Total	<3.00 ug/L	3.00	ug/L	<3.00 ug/L				NA	30	
Tetrahydrofuran	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	

Surr: 1,2-Dichloroethane-d4 (Surr)	47.5		ug/L	50.0 ug/L		94.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.2		ug/L	50.0 ug/L		100	75-120			
Surr: Dibromofluoromethane (Surr)	47.9		ug/L	50.0 ug/L		95.8	70-130			
Surr: Toluene-d8 (Surr)	49.4		ug/L	50.0 ug/L		98.9	70-130			

Matrix Spike (BGK0282-MS1)

Source: 23K0232-02

Prepared & Analyzed: 11/07/2023

1,1,1,2-Tetrachloroethane	50.5 ug/L	0.4	ug/L	50.0	<0.4 ug/L	101	80-130			
1,1,1-Trichloroethane	57.8 ug/L	1	ug/L	50.0	<1 ug/L	116	65-130			
1,1,2,2-Tetrachloroethane	51.1 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	65-130			
1,1,2-Trichloroethane	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
1,1-Dichloroethane	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	70-135			
1,1-Dichloroethylene	62.7 ug/L	1	ug/L	50.0	1.52 ug/L	122	50-145			
1,1-Dichloropropene	59.8 ug/L	1	ug/L	50.0	<1 ug/L	120	75-135			
1,2,3-Trichlorobenzene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	104	55-140			
1,2,3-Trichloropropane	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
1,2,4-Trichlorobenzene	61.2 ug/L	1	ug/L	50.0	7.31 ug/L	108	65-135			
1,2,4-Trimethylbenzene	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	50-130			
1,2-Dibromoethane (EDB)	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	80-120			
1,2-Dichlorobenzene	52.2 ug/L	0.5	ug/L	50.0	1.22 ug/L	102	70-120			
1,2-Dichloroethane	58.6 ug/L	1	ug/L	50.0	2.46 ug/L	112	70-130			
1,2-Dichloropropane	50.3 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	75-125			
1,3,5-Trimethylbenzene	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	75-124			
1,3-Dichlorobenzene	54.7 ug/L	1	ug/L	50.0	3.13 ug/L	103	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Matrix Spike (BGK0282-MS1)

Source: 23K0232-02

Prepared & Analyzed: 11/07/2023

1,3-Dichloropropane	49.0 ug/L	1	ug/L	50.0	<1 ug/L	97.9	75-125			
1,4-Dichlorobenzene	59.7 ug/L	1	ug/L	50.0	10.6 ug/L	98.0	75-125			
2,2-Dichloropropane	59.9 ug/L	1	ug/L	50.0	<1 ug/L	120	70-135			
2-Butanone (MEK)	43.5 ug/L	10	ug/L	50.0	<10 ug/L	87.0	30-150			
2-Chlorotoluene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
2-Hexanone (MBK)	54.4 ug/L	5	ug/L	50.0	<5 ug/L	109	55-130			
4-Chlorotoluene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-130			
4-Isopropyltoluene	57.1 ug/L	1	ug/L	50.0	<1 ug/L	114	75-130			
4-Methyl-2-pentanone (MIBK)	52.4 ug/L	5	ug/L	50.0	<5 ug/L	105	60-135			
Acetone	54.4 ug/L	10	ug/L	50.0	<10 ug/L	109	40-140			
Benzene	50.7 ug/L	1	ug/L	50.0	2.08 ug/L	97.2	80-120			
Bromobenzene	50.4 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
Bromochloromethane	46.5 ug/L	1	ug/L	50.0	<1 ug/L	93.0	65-130			
Bromodichloromethane	52.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-136			
Bromoform	47.2 ug/L	1	ug/L	50.0	<1 ug/L	94.5	70-130			
Bromomethane	44.4 ug/L	1	ug/L	50.0	<1 ug/L	88.8	30-145			
Carbon disulfide	62.9 ug/L	10	ug/L	50.0	<10 ug/L	126	35-160			
Carbon tetrachloride	62.6 ug/L	1	ug/L	50.0	<1 ug/L	124	65-140			
Chlorobenzene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120			
Chloroethane	59.1 ug/L	1	ug/L	50.0	<1 ug/L	118	60-135			
Chloroform	54.8 ug/L	0.5	ug/L	50.0	2.50 ug/L	105	65-135			
Chloromethane	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	40-125			
cis-1,2-Dichloroethylene	89.1 ug/L	1	ug/L	50.0	43.1 ug/L	92.0	70-125			
cis-1,3-Dichloropropene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	47-136			
Dibromochloromethane	50.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	60-135			
Dibromomethane	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	75-125			
Dichlorodifluoromethane	60.9 ug/L	1	ug/L	50.0	<1 ug/L	122	30-155			
Ethylbenzene	55.9 ug/L	1	ug/L	50.0	<1 ug/L	112	75-125			
Hexachlorobutadiene	59.3 ug/L	0.8	ug/L	50.0	<0.8 ug/L	119	50-140			
Isopropylbenzene	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125			
m+p-Xylenes	108 ug/L	2	ug/L	100	<2 ug/L	108	75-130			



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0282 - SW5030B-MS

Matrix Spike (BGK0282-MS1)

Source: 23K0232-02

Prepared & Analyzed: 11/07/2023

Methylene chloride	59.6 ug/L	4	ug/L	50.0	<4 ug/L	119	55-140			
Methyl-t-butyl ether (MTBE)	48.0 ug/L	1	ug/L	50.0	<1 ug/L	96.0	65-125			
Naphthalene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	55-140			
n-Butylbenzene	60.2 ug/L	1	ug/L	50.0	<1 ug/L	120	70-135			
n-Propylbenzene	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	70-130			
o-Xylene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120			
sec-Butylbenzene	61.7 ug/L	1	ug/L	50.0	<1 ug/L	123	70-125			
Styrene	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.8	65-135			
tert-Butylbenzene	55.5 ug/L	1	ug/L	50.0	<1 ug/L	111	70-130			
Tetrachloroethylene (PCE)	57.2 ug/L	1	ug/L	50.0	<1 ug/L	114	51-231			
Toluene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-120			
trans-1,2-Dichloroethylene	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	60-140			
trans-1,3-Dichloropropene	55.1 ug/L	1	ug/L	50.0	<1 ug/L	110	55-140			
Trichloroethylene	91.5 ug/L	1	ug/L	50.0	38.9 ug/L	105	70-125			
Trichlorofluoromethane	75.2 ug/L	1	ug/L	50.0	<1 ug/L	150	60-145			M
Vinyl chloride	64.4 ug/L	0.5	ug/L	50.0	2.61 ug/L	124	50-145			
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	49.5		ug/L	50.0	ug/L	99.0	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.3		ug/L	50.0	ug/L	105	75-120			
Surr: Dibromofluoromethane (Surr)	51.2		ug/L	50.0	ug/L	102	70-130			
Surr: Toluene-d8 (Surr)	48.9		ug/L	50.0	ug/L	97.9	70-130			



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 Purchase Order:

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0266 - SW3510C/EPA600-MS

Blank (BGK0266-BLK1)

Prepared & Analyzed: 11/07/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0266 - SW3510C/EPA600-MS

Blank (BGK0266-BLK1)

Prepared & Analyzed: 11/07/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0266 - SW3510C/EPA600-MS

Blank (BGK0266-BLK1)

Prepared & Analyzed: 11/07/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	75.0		ug/L	100		75.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	33.9		ug/L	50.0		67.8	9-117			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0266 - SW3510C/EPA600-MS

Blank (BGK0266-BLK1)

Prepared & Analyzed: 11/07/2023

Surr: 2-Fluorophenol (Surr)	47.6		ug/L	100		47.6	5-60			
Surr: Nitrobenzene-d5 (Surr)	47.0		ug/L	50.0		94.0	5-151			
Surr: Phenol-d5 (Surr)	31.6		ug/L	100		31.6	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.7		ug/L	50.0		61.3	5-141			

LCS (BGK0266-BS1)

Prepared & Analyzed: 11/07/2023

1,2,4-Trichlorobenzene	31.0 ug/L	10.0	ug/L	50.0	ug/L	62.1	57-130			
1,2-Dichlorobenzene	28.4 ug/L	10.0	ug/L	50.0	ug/L	56.8	22-115			
1,3-Dichlorobenzene	28.2 ug/L	10.0	ug/L	50.0	ug/L	56.4	22-112			
1,4-Dichlorobenzene	31.0 ug/L	10.0	ug/L	50.0	ug/L	61.9	13-112			
2,4,6-Trichlorophenol	36.0 ug/L	10.0	ug/L	50.0	ug/L	72.1	52-129			
2,4-Dichlorophenol	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.8	53-122			
2,4-Dimethylphenol	32.5 ug/L	5.00	ug/L	50.0	ug/L	65.0	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	31.8	48-127			L
2,4-Dinitrotoluene	37.4 ug/L	10.0	ug/L	50.0	ug/L	74.8	10-173			
2,6-Dinitrotoluene	32.1 ug/L	10.0	ug/L	50.0	ug/L	64.2	68-137			L
2-Chloronaphthalene	29.7 ug/L	10.0	ug/L	50.0	ug/L	59.3	65-120			L
2-Chlorophenol	31.6 ug/L	10.0	ug/L	50.0	ug/L	63.2	36-120			
2-Nitrophenol	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.1	45-167			
3,3'-Dichlorobenzidine	23.8 ug/L	10.0	ug/L	50.0	ug/L	47.5	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	57.8	53-130			
4-Bromophenyl phenyl ether	32.1 ug/L	10.0	ug/L	50.0	ug/L	64.2	65-120			L
4-Chlorophenyl phenyl ether	43.3 ug/L	10.0	ug/L	50.0	ug/L	86.6	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	26.6	13-129			
Acenaphthene	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.1	60-132			
Acenaphthylene	39.8 ug/L	10.0	ug/L	50.0	ug/L	79.6	54-126			
Acetophenone	36.4 ug/L	20.0	ug/L	50.0	ug/L	72.8	0-200			
Anthracene	50.3 ug/L	10.0	ug/L	50.0	ug/L	101	43-120			
Benzo (a) anthracene	31.3 ug/L	10.0	ug/L	50.0	ug/L	62.6	42-133			
Benzo (a) pyrene	34.2 ug/L	10.0	ug/L	50.0	ug/L	68.5	32-148			
Benzo (b) fluoranthene	35.5 ug/L	10.0	ug/L	50.0	ug/L	71.0	42-140			
Benzo (g,h,i) perylene	26.1 ug/L	10.0	ug/L	50.0	ug/L	52.2	10-195			



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Batch BGK0266 - SW3510C/EPA600-MS

LCS (BGK0266-BS1)

Prepared & Analyzed: 11/07/2023

Benzo (k) fluoranthene	36.5 ug/L	10.0	ug/L	50.0	ug/L	72.9	25-146			
bis (2-Chloroethoxy) methane	36.0 ug/L	10.0	ug/L	50.0	ug/L	71.9	49-165			
bis (2-Chloroethyl) ether	29.2 ug/L	10.0	ug/L	50.0	ug/L	58.4	43-126			
2,2'-Oxybis (1-chloropropane)	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.2	63-139			
bis (2-Ethylhexyl) phthalate	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	29-137			
Butyl benzyl phthalate	38.4 ug/L	10.0	ug/L	50.0	ug/L	76.8	10-140			
Chrysene	28.1 ug/L	10.0	ug/L	50.0	ug/L	56.1	44-140			
Dibenz (a,h) anthracene	37.8 ug/L	10.0	ug/L	50.0	ug/L	75.5	10-200			
Diethyl phthalate	40.4 ug/L	10.0	ug/L	50.0	ug/L	80.9	10-120			
Dimethyl phthalate	33.8 ug/L	10.0	ug/L	50.0	ug/L	67.6	10-120			
Di-n-butyl phthalate	53.1 ug/L	10.0	ug/L	50.0	ug/L	106	10-120			
Di-n-octyl phthalate	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.7	19-132			
Fluoranthene	53.6 ug/L	10.0	ug/L	50.0	ug/L	107	43-121			
Fluorene	44.2 ug/L	10.0	ug/L	50.0	ug/L	88.5	70-120			
Hexachlorobenzene	23.5 ug/L	1.00	ug/L	50.0	ug/L	47.0	10-142			
Hexachlorobutadiene	43.0 ug/L	10.0	ug/L	50.0	ug/L	86.0	38-120			
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L	50.0	ug/L		10-76			L
Hexachloroethane	38.5 ug/L	10.0	ug/L	50.0	ug/L	76.9	55-120			
Indeno (1,2,3-cd) pyrene	36.8 ug/L	10.0	ug/L	50.0	ug/L	73.7	10-151			
Isophorone	30.3 ug/L	10.0	ug/L	50.0	ug/L	60.5	47-180			
Naphthalene	39.1 ug/L	5.00	ug/L	50.0	ug/L	78.2	36-120			
Nitrobenzene	44.9 ug/L	10.0	ug/L	50.0	ug/L	89.7	54-158			
n-Nitrosodimethylamine	20.1 ug/L	10.0	ug/L	50.0	ug/L	40.2	10-85			
n-Nitrosodi-n-propylamine	44.2 ug/L	10.0	ug/L	50.0	ug/L	88.5	14-198			
n-Nitrosodiphenylamine	29.2 ug/L	10.0	ug/L	50.0	ug/L	58.4	12-97			
p-Chloro-m-cresol	42.0 ug/L	10.0	ug/L	50.0	ug/L	83.9	10-142			
Pentachlorophenol	<20.0 ug/L	20.0	ug/L	50.0	ug/L	27.0	38-152			L
Phenanthrene	54.4 ug/L	10.0	ug/L	50.0	ug/L	109	65-120			
Phenol	16.5 ug/L	10.0	ug/L	50.5	ug/L	32.6	17-120			
Pyrene	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.6	70-120			L
Pyridine	25.9 ug/L	10.0	ug/L	50.0	ug/L	51.8	10-103			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 08, 2023 16:04
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	------

Batch BGK0266 - SW3510C/EPA600-MS

LCS (BGK0266-BS1)

Prepared & Analyzed: 11/07/2023

Surr: 2,4,6-Tribromophenol (Surr)	80.1		ug/L	100	ug/L	80.1	5-136			
Surr: 2-Fluorobiphenyl (Surr)	34.4		ug/L	50.0	ug/L	68.8	9-117			
Surr: 2-Fluorophenol (Surr)	47.4		ug/L	100	ug/L	47.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	45.7		ug/L	50.0	ug/L	91.4	5-151			
Surr: Phenol-d5 (Surr)	31.5		ug/L	100	ug/L	31.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	24.5		ug/L	50.0	ug/L	48.9	5-141			



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 08, 2023 16:04
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rest.		

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 08, 2023 16:04
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 08, 2023 16:04
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rest.		

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rest.

Date Issued: November 08, 2023 16:04
 Project Number: [none]
 Purchase Order:

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2023



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 08, 2023 16:04
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Summary of Data Qualifiers

B Blank contamination. The recorded result is associated with a contaminated blank.

C Continuing calibration verification response for this analyte is outside specifications.

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

P Duplicate analysis does not meet the acceptance criteria for precision

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: <i>Total Environmental Concepts</i>		INVOICE TO: <i>Total Environmental Concepts</i>		PROJECT NAME/Quote #: <i>Kodie Halstead</i>	
CONTACT: <i>Sharon Arvink</i>		INVOICE CONTACT: <i>Sharon</i>		SITE NAME: <i>Halstead Rest</i>	
ADDRESS: <i>8392 Terminal Drive, Garden VA</i>		INVOICE ADDRESS: <i>8392 Terminal Drive, both</i>		PROJECT NUMBER:	
PHONE #: <i>804-389-7983</i>		INVOICE PHONE #:		P.O. #: <i>BD</i>	
FAX #: <i>N/A</i>		EMAIL: <i>shryvnia.k@teci.pro</i>		Pretreatment Program: <i>N/A</i>	
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State: <i>VA</i>		Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
SAMPLER NAME (PRINT): <i>David L. Dudley</i>		SAMPLER SIGNATURE: <i>[Signature]</i>		Turn Around Time: Circle 10 5 Days or <i>1 Day</i>	
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OP=Organic A=Air WP=Wipe OT=Other					
CLIENT SAMPLE I.D.					
Grab		Field Filtered (Dissolved Metals)		ANALYSIS / (PRESERVATIVE)	
Composite		Composite		Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol	
Grab Date or Composite Start Time		Composite Start Time		Number of Containers	
Grab Date or Composite Stop Date		Composite Stop Date		Matrix (See Codes)	
Grab Time		Time Preserved		820 WCs	
Grab Time or Composite Stop		Time Preserved		860 WCs	
1) <i>SD-1</i>		11-6-23 9:26a 9:40a DW		1	
2) <i>SD-1</i>		11-6-23 9:30a 9:40a DW		3	
3) <i>trip blank</i>				2	
4)					
5)					
6)					
7)					
8)					
9)					
10)					
RELINQUISHED: <i>[Signature]</i>		DATE / TIME RECEIVED: 11-6-23 13:45		LAB USE ONLY Therm ID: <i>338</i> COOLER TEMP <i>11.5</i> °C	
ACQUIRED: <i>[Signature]</i>		DATE / TIME RECEIVED: 11-6-23 15:25		Custody Seals used and intact? (Y/N) <i>(N)</i> Received on ice? <i>(N)</i>	
RECEIVED: <i>[Signature]</i>		DATE / TIME RECEIVED: 11-6-23 15:25		TEC-Springfield 23K0242	
				State Lead - Kodie Halstead	
				Recd: 11/06/2023 Due: 11/08/2023	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 08, 2023 16:04
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove Rest.	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	11.50°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

Work Order Comments

*Samples were logged as groundwater per Shanna Hryvniak via phone, which differs from the chain of custody ("DW").
 *Trip blank collection date and time were logged per the bottle labels . MRS 11/06/23 1546



Appendix C

Laboratory Analytical Report (11/16/2023)



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Certificate of Analysis

Final Report

Laboratory Order ID 23K0878

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Date Received: November 16, 2023 16:25

Date Issued: November 21, 2023 14:23

Project Number: [none]

Purchase Order: 4260155-001

Enclosed are the results of analyses for samples received by the laboratory on 11/16/2023 16:25. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'm. mishra'.

Mandy Mishra
Laboratory Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23K0878

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1640 Coopers	23K0878-01	Ground Water	11/16/2023 10:00	11/16/2023 16:25
1609 Coopers	23K0878-02	Ground Water	11/16/2023 11:30	11/16/2023 16:25
1601 Coopers	23K0878-03	Ground Water	11/16/2023 11:45	11/16/2023 16:25
100 Patsel	23K0878-04	Ground Water	11/16/2023 11:45	11/16/2023 16:25
Trip Blank	23K0878-05	Ground Water	11/14/2023 10:35	11/16/2023 16:25



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers

Laboratory Sample ID: 23K0878-01

Grab Date/Time: 11/16/2023 10:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L	C	1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:24	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:24	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers	Laboratory Sample ID: 23K0878-01
Grab Date/Time: 11/16/2023 10:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:24	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:24	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	11/17/23 00:00	11/17/23 15:24	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:24	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	11/17/23 00:00	11/17/23 15:24	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers

Laboratory Sample ID: 23K0878-01

Grab Date/Time: 11/16/2023 10:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	39.4 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:24	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:24	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	11/17/23 00:00	11/17/23 15:24	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	96.6 %		70-120		11/17/23 00:00	11/17/23 15:24	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	111 %		75-120		11/17/23 00:00	11/17/23 15:24	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	98.2 %		70-130		11/17/23 00:00	11/17/23 15:24	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	102 %		70-130		11/17/23 00:00	11/17/23 15:24	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers
 Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers

Laboratory Sample ID: 23K0878-01

Grab Date/Time: 11/16/2023 10:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 14:56	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers	Laboratory Sample ID: 23K0878-01
Grab Date/Time: 11/16/2023 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers	Laboratory Sample ID: 23K0878-01
Grab Date/Time: 11/16/2023 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 14:56	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	11/16/23 12:35	11/17/23 14:56	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 14:56	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1640 Coopers Laboratory Sample ID: 23K0878-01
 Grab Date/Time: 11/16/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 14:56	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 14:56	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	62.7 %		5-136		11/16/23 12:35	11/17/23 14:56	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	78.7 %		9-117		11/16/23 12:35	11/17/23 14:56	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	37.5 %		5-60		11/16/23 12:35	11/17/23 14:56	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	74.0 %		5-151		11/16/23 12:35	11/17/23 14:56	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	29.4 %		5-60		11/16/23 12:35	11/17/23 14:56	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	80.1 %		5-141		11/16/23 12:35	11/17/23 14:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers
 Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers

Laboratory Sample ID: 23K0878-02

Grab Date/Time: 11/16/2023 11:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L	C	1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:47	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:47	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers	Laboratory Sample ID: 23K0878-02
Grab Date/Time: 11/16/2023 11:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:47	RJB
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:47	RJB
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	11/17/23 00:00	11/17/23 15:47	RJB
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:47	RJB
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	11/17/23 00:00	11/17/23 15:47	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers
 Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers Laboratory Sample ID: 23K0878-02
 Grab Date/Time: 11/16/2023 11:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 15:47	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 15:47	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	11/17/23 00:00	11/17/23 15:47	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	99.9 %		70-120		11/17/23 00:00	11/17/23 15:47	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	109 %		75-120		11/17/23 00:00	11/17/23 15:47	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	99.9 %		70-130		11/17/23 00:00	11/17/23 15:47	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	102 %		70-130		11/17/23 00:00	11/17/23 15:47	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers
 Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers

Laboratory Sample ID: 23K0878-02

Grab Date/Time: 11/16/2023 11:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 15:31	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers

Laboratory Sample ID: 23K0878-02

Grab Date/Time: 11/16/2023 11:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers
 Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers

Laboratory Sample ID: 23K0878-02

Grab Date/Time: 11/16/2023 11:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 15:31	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	11/16/23 12:35	11/17/23 15:31	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 15:31	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1609 Coopers Laboratory Sample ID: 23K0878-02
 Grab Date/Time: 11/16/2023 11:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 15:31	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 15:31	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	61.3 %		5-136		11/16/23 12:35	11/17/23 15:31	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	79.4 %		9-117		11/16/23 12:35	11/17/23 15:31	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	40.2 %		5-60		11/16/23 12:35	11/17/23 15:31	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	73.4 %		5-151		11/16/23 12:35	11/17/23 15:31	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	28.9 %		5-60		11/16/23 12:35	11/17/23 15:31	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	61.7 %		5-141		11/16/23 12:35	11/17/23 15:31	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers

Laboratory Sample ID: 23K0878-03

Grab Date/Time: 11/16/2023 11:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L	C	1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:11	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:11	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers

Laboratory Sample ID: 23K0878-03

Grab Date/Time: 11/16/2023 11:45

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:11	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:11	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	11/17/23 00:00	11/17/23 16:11	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:11	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	11/17/23 00:00	11/17/23 16:11	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 21, 2023 14:23
		Project Number:	[none]
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers	Laboratory Sample ID: 23K0878-03
Grab Date/Time: 11/16/2023 11:45	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:11	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:11	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	11/17/23 00:00	11/17/23 16:11	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	99.8 %		70-120		11/17/23 00:00	11/17/23 16:11	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	110 %		75-120		11/17/23 00:00	11/17/23 16:11	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	99.7 %		70-130		11/17/23 00:00	11/17/23 16:11	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	104 %		70-130		11/17/23 00:00	11/17/23 16:11	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers

Laboratory Sample ID: 23K0878-03

Grab Date/Time: 11/16/2023 11:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1,2-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1,2-Diphenylhydrazine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1,3-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1,3-Dinitrobenzene	03	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 16:05	BMS
1,4-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
1-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4,5-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4,6-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4-Dimethylphenol	03	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4-Dinitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,4-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,6-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,6-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Chloronaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Chlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Methylnaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2-Nitrophenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
3-Methylcholanthrene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
3-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: November 21, 2023 14:23
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers

Laboratory Sample ID: 23K0878-03

Grab Date/Time: 11/16/2023 11:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Aminobiphenyl	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Chloroaniline	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
4-Nitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Acenaphthene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Acenaphthylene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Acetophenone	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Aniline	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Anthracene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzidine	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzo (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzo (a) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzo (b) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzo (g,h,i) perylene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzo (k) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzoic acid	03	SW8270E	<50.0 ug/L		50.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Benzyl alcohol	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers	Laboratory Sample ID: 23K0878-03
Grab Date/Time: 11/16/2023 11:45	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Chrysene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Dibenz (a,h) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Dibenz (a,j) acridine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Dibenzofuran	03	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 16:05	BMS
Diethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Dimethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Di-n-butyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Di-n-octyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Diphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Ethyl methanesulfonate	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Fluorene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Hexachlorobenzene	03	SW8270E	<1.00 ug/L		1.00	1	11/16/23 12:35	11/17/23 16:05	BMS
Hexachlorobutadiene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Hexachlorocyclopentadiene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Hexachloroethane	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Isophorone	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Methyl methanesulfonate	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Naphthalene	03	SW8270E	<5.00 ug/L		5.00	1	11/16/23 12:35	11/17/23 16:05	BMS
Nitrobenzene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
n-Nitrosodimethylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 1601 Coopers

Laboratory Sample ID: 23K0878-03

Grab Date/Time: 11/16/2023 11:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
n-Nitrosopiperidine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
o+m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
o-Cresol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<2.50 ug/L		2.50	1	11/16/23 12:35	11/17/23 16:05	BMS
p-Chloro-m-cresol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Pentachlorophenol	03	SW8270E	<20.0 ug/L		20.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Phenacetin	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Phenanthrene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Phenol	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Pronamide	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Pyrene	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Pyridine	03	SW8270E	<10.0 ug/L		10.0	1	11/16/23 12:35	11/17/23 16:05	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	66.9 %		5-136		11/16/23 12:35	11/17/23 16:05	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	81.2 %		9-117		11/16/23 12:35	11/17/23 16:05	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	36.8 %		5-60		11/16/23 12:35	11/17/23 16:05	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	73.6 %		5-151		11/16/23 12:35	11/17/23 16:05	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	27.3 %		5-60		11/16/23 12:35	11/17/23 16:05	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	67.3 %		5-141		11/16/23 12:35	11/17/23 16:05	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel Laboratory Sample ID: 23K0878-04
 Grab Date/Time: 11/16/2023 11:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L	C	1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:34	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:34	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel Laboratory Sample ID: 23K0878-04
 Grab Date/Time: 11/16/2023 11:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Acetone	04	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:34	RJB
Benzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Bromobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Bromochloromethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Bromodichloromethane	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
Bromoform	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Bromomethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Carbon disulfide	04	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:34	RJB
Carbon tetrachloride	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Chlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Chloroethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Chloroform	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
Chloromethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Dibromochloromethane	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
Dibromomethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Ethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L		0.80	1	11/17/23 00:00	11/17/23 16:34	RJB
Iodomethane	04	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:34	RJB
Isopropylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
m+p-Xylenes	04	SW8260D	<2.00 ug/L		2.00	1	11/17/23 00:00	11/17/23 16:34	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel	Laboratory Sample ID: 23K0878-04
Grab Date/Time: 11/16/2023 11:45	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	04	SW8260D	<4.00 ug/L		4.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	11.8 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Naphthalene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
o-Xylene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Styrene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Toluene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 16:34	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 16:34	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L		3.00	1	11/17/23 00:00	11/17/23 16:34	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	98.6 %		70-120		11/17/23 00:00	11/17/23 16:34	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	111 %		75-120		11/17/23 00:00	11/17/23 16:34	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	100 %		70-130		11/17/23 00:00	11/17/23 16:34	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	103 %		70-130		11/17/23 00:00	11/17/23 16:34	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel Laboratory Sample ID: 23K0878-04
 Grab Date/Time: 11/16/2023 11:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1,2-Dichlorobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1,2-Diphenylhydrazine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1,3-Dichlorobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1,3-Dinitrobenzene	04	SW8270E	<2.60 ug/L		2.60	1	11/16/23 12:35	11/17/23 16:39	BMS
1,4-Dichlorobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
1-Naphthylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4,5-Trichlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4,6-Trichlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4-Dichlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4-Dimethylphenol	04	SW8270E	<5.21 ug/L		5.21	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4-Dinitrophenol	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
2,4-Dinitrotoluene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,6-Dichlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,6-Dinitrotoluene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Chloronaphthalene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Chlorophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Methylnaphthalene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Naphthylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Nitroaniline	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
2-Nitrophenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
3-Methylcholanthrene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
3-Nitroaniline	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel Laboratory Sample ID: 23K0878-04
 Grab Date/Time: 11/16/2023 11:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Aminobiphenyl	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Chloroaniline	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Nitroaniline	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
4-Nitrophenol	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Acenaphthene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Acenaphthylene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Acetophenone	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
Aniline	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
Anthracene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzidine	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzo (a) anthracene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzo (a) pyrene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzo (b) fluoranthene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzo (g,h,i) perylene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzo (k) fluoranthene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzoic acid	04	SW8270E	<52.1 ug/L		52.1	1	11/16/23 12:35	11/17/23 16:39	BMS
Benzyl alcohol	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel	Laboratory Sample ID: 23K0878-04
Grab Date/Time: 11/16/2023 11:45	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Chrysene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Dibenz (a,h) anthracene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Dibenz (a,j) acridine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Dibenzofuran	04	SW8270E	<5.21 ug/L		5.21	1	11/16/23 12:35	11/17/23 16:39	BMS
Diethyl phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Dimethyl phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Di-n-butyl phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Di-n-octyl phthalate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Diphenylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Ethyl methanesulfonate	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
Fluoranthene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Fluorene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Hexachlorobenzene	04	SW8270E	<1.04 ug/L		1.04	1	11/16/23 12:35	11/17/23 16:39	BMS
Hexachlorobutadiene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Hexachlorocyclopentadiene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Hexachloroethane	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Isophorone	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
m+p-Cresols	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Methyl methanesulfonate	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Naphthalene	04	SW8270E	<5.21 ug/L		5.21	1	11/16/23 12:35	11/17/23 16:39	BMS
Nitrobenzene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
n-Nitrosodimethylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. 100 Patsel Laboratory Sample ID: 23K0878-04
 Grab Date/Time: 11/16/2023 11:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
n-Nitrosopiperidine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
o+m+p-Cresols	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
o-Cresol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<2.60 ug/L		2.60	1	11/16/23 12:35	11/17/23 16:39	BMS
p-Chloro-m-cresol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Pentachlorophenol	04	SW8270E	<20.8 ug/L		20.8	1	11/16/23 12:35	11/17/23 16:39	BMS
Phenacetin	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Phenanthrene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Phenol	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Pronamide	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Pyrene	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Pyridine	04	SW8270E	<10.4 ug/L		10.4	1	11/16/23 12:35	11/17/23 16:39	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	58.5 %		5-136		11/16/23 12:35	11/17/23 16:39	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	74.5 %		9-117		11/16/23 12:35	11/17/23 16:39	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	45.2 %		5-60		11/16/23 12:35	11/17/23 16:39	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	70.9 %		5-151		11/16/23 12:35	11/17/23 16:39	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	27.3 %		5-60		11/16/23 12:35	11/17/23 16:39	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	70.2 %		5-141		11/16/23 12:35	11/17/23 16:39	BMS



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23K0878-05
Grab Date/Time: 11/14/2023 10:35	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L	C	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 13:27	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 13:27	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	11/17/23 00:00	11/17/23 13:27	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23K0878-05
Grab Date/Time: 11/14/2023 10:35	Field pH:
Field Residual Cl:	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L	5.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Acetone	05	SW8260D	<10.0 ug/L	10.0	1	11/17/23 00:00	11/17/23 13:27	RJB	
Benzene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Bromobenzene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Bromochloromethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Bromodichloromethane	05	SW8260D	<0.50 ug/L	0.50	1	11/17/23 00:00	11/17/23 13:27	RJB	
Bromoform	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Bromomethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Carbon disulfide	05	SW8260D	<10.0 ug/L	10.0	1	11/17/23 00:00	11/17/23 13:27	RJB	
Carbon tetrachloride	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Chlorobenzene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Chloroethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Chloroform	05	SW8260D	<0.50 ug/L	0.50	1	11/17/23 00:00	11/17/23 13:27	RJB	
Chloromethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Dibromochloromethane	05	SW8260D	<0.50 ug/L	0.50	1	11/17/23 00:00	11/17/23 13:27	RJB	
Dibromomethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L	5.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Ethylbenzene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L	0.80	1	11/17/23 00:00	11/17/23 13:27	RJB	
Iodomethane	05	SW8260D	<10.0 ug/L	10.0	1	11/17/23 00:00	11/17/23 13:27	RJB	
Isopropylbenzene	05	SW8260D	<1.00 ug/L	1.00	1	11/17/23 00:00	11/17/23 13:27	RJB	
m+p-Xylenes	05	SW8260D	<2.00 ug/L	2.00	1	11/17/23 00:00	11/17/23 13:27	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23K0878

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23K0878-05
Grab Date/Time: 11/14/2023 10:35	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	11/17/23 00:00	11/17/23 13:27	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	11/17/23 00:00	11/17/23 13:27	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	11/17/23 00:00	11/17/23 13:27	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	98.8 %		70-120		11/17/23 00:00	11/17/23 13:27	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	110 %		75-120		11/17/23 00:00	11/17/23 13:27	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	99.8 %		70-130		11/17/23 00:00	11/17/23 13:27	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	103 %		70-130		11/17/23 00:00	11/17/23 13:27	RJB



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	November 21, 2023 14:23
		Project Number:	[none]
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23K0878-01	1050 mL / 1.00 mL	SW8270E	BGK0716	SGK0759	AK30208
23K0878-02	1050 mL / 1.00 mL	SW8270E	BGK0716	SGK0759	AK30208
23K0878-03	1050 mL / 1.00 mL	SW8270E	BGK0716	SGK0759	AK30208
23K0878-04	960 mL / 1.00 mL	SW8270E	BGK0716	SGK0759	AK30208
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23K0878-01	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
23K0878-02	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
23K0878-03	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
23K0878-04	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
23K0878-05	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method: SW3510C/EPA600-MS		
BGK0716-BLK1	1000 mL / 1.00 mL	SW8270E	BGK0716	SGK0726	AK30208
BGK0716-BLK2		SW8270E	BGK0716	SGK0707	AG30283
BGK0716-BS1	1000 mL / 1.00 mL	SW8270E	BGK0716	SGK0726	AK30208

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B-MS		
BGK0793-BLK1	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
BGK0793-BLK2	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
BGK0793-BS1	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
BGK0793-BS2	5.00 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
BGK0793-MS1	0.250 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270
BGK0793-MSD1	0.250 mL / 5.00 mL	SW8260D	BGK0793	SGK0731	AK30270



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Blank (BGK0793-BLK1)

Prepared & Analyzed: 11/17/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Blank (BGK0793-BLK1)

Prepared & Analyzed: 11/17/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Blank (BGK0793-BLK1)

Prepared & Analyzed: 11/17/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	49.9		ug/L	50.0		99.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	55.2		ug/L	50.0		110	75-120			
Surr: Dibromofluoromethane (Surr)	49.4		ug/L	50.0		98.8	70-130			
Surr: Toluene-d8 (Surr)	51.4		ug/L	50.0		103	70-130			

LCS (BGK0793-BS1)

Prepared & Analyzed: 11/17/2023

1,1,1,2-Tetrachloroethane	56.0 ug/L	0.4	ug/L	50.0	ug/L	112	80-130			
1,1,1-Trichloroethane	56.6 ug/L	1	ug/L	50.0	ug/L	113	65-130			
1,1,2,2-Tetrachloroethane	48.4 ug/L	0.4	ug/L	50.0	ug/L	96.7	65-130			
1,1,2-Trichloroethane	57.2 ug/L	1	ug/L	50.0	ug/L	114	75-125			
1,1-Dichloroethane	58.2 ug/L	1	ug/L	50.0	ug/L	116	70-135			
1,1-Dichloroethylene	60.1 ug/L	1	ug/L	50.0	ug/L	120	70-130			
1,1-Dichloropropene	58.9 ug/L	1	ug/L	50.0	ug/L	118	75-135			
1,2,3-Trichlorobenzene	48.7 ug/L	1	ug/L	50.0	ug/L	97.4	55-140			
1,2,3-Trichloropropane	42.8 ug/L	1	ug/L	50.0	ug/L	85.6	75-125			
1,2,4-Trichlorobenzene	52.0 ug/L	1	ug/L	50.0	ug/L	104	65-135			
1,2,4-Trimethylbenzene	58.9 ug/L	1	ug/L	50.0	ug/L	118	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	41.5 ug/L	1	ug/L	50.0	ug/L	83.1	50-130			
1,2-Dibromoethane (EDB)	50.7 ug/L	1	ug/L	50.0	ug/L	101	80-120			
1,2-Dichlorobenzene	51.0 ug/L	0.5	ug/L	50.0	ug/L	102	70-120			
1,2-Dichloroethane	47.8 ug/L	1	ug/L	50.0	ug/L	95.6	70-130			
1,2-Dichloropropane	57.9 ug/L	0.5	ug/L	50.0	ug/L	116	75-125			
1,3,5-Trimethylbenzene	56.6 ug/L	1	ug/L	50.0	ug/L	113	75-125			
1,3-Dichlorobenzene	54.3 ug/L	1	ug/L	50.0	ug/L	109	75-125			
1,3-Dichloropropane	55.6 ug/L	1	ug/L	50.0	ug/L	111	75-125			

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

LCS (BGK0793-BS1)

Prepared & Analyzed: 11/17/2023

1,4-Dichlorobenzene	51.7 ug/L	1	ug/L	50.0	ug/L	103	75-125			
2,2-Dichloropropane	56.3 ug/L	1	ug/L	50.0	ug/L	113	70-135			
2-Butanone (MEK)	43.9 ug/L	10	ug/L	50.0	ug/L	87.8	30-150			
2-Chlorotoluene	58.7 ug/L	1	ug/L	50.0	ug/L	117	75-125			
2-Hexanone (MBK)	39.5 ug/L	5	ug/L	50.0	ug/L	79.0	55-130			
4-Chlorotoluene	58.9 ug/L	1	ug/L	50.0	ug/L	118	75-130			
4-Isopropyltoluene	57.5 ug/L	1	ug/L	50.0	ug/L	115	75-130			
4-Methyl-2-pentanone (MIBK)	47.2 ug/L	5	ug/L	50.0	ug/L	94.4	60-135			
Acetone	37.2 ug/L	10	ug/L	50.0	ug/L	74.4	40-140			
Benzene	57.6 ug/L	1	ug/L	50.0	ug/L	115	80-120			
Bromobenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Bromochloromethane	53.8 ug/L	1	ug/L	50.0	ug/L	108	65-130			
Bromodichloromethane	56.8 ug/L	0.5	ug/L	50.0	ug/L	114	75-120			
Bromoform	54.3 ug/L	1	ug/L	50.0	ug/L	109	70-130			
Bromomethane	40.6 ug/L	1	ug/L	50.0	ug/L	81.2	30-145			
Carbon disulfide	47.2 ug/L	10	ug/L	50.0	ug/L	94.3	35-160			
Carbon tetrachloride	55.8 ug/L	1	ug/L	50.0	ug/L	112	65-140			
Chlorobenzene	54.4 ug/L	1	ug/L	50.0	ug/L	109	80-120			
Chloroethane	56.6 ug/L	1	ug/L	50.0	ug/L	113	60-135			
Chloroform	52.6 ug/L	0.5	ug/L	50.0	ug/L	105	65-135			
Chloromethane	52.8 ug/L	1	ug/L	50.0	ug/L	106	40-125			
cis-1,2-Dichloroethylene	56.0 ug/L	1	ug/L	50.0	ug/L	112	70-125			
cis-1,3-Dichloropropene	58.0 ug/L	1	ug/L	50.0	ug/L	116	70-130			
Dibromochloromethane	58.7 ug/L	0.5	ug/L	50.0	ug/L	117	60-135			
Dibromomethane	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
Dichlorodifluoromethane	54.2 ug/L	1	ug/L	50.0	ug/L	108	30-155			
Ethylbenzene	57.3 ug/L	1	ug/L	50.0	ug/L	115	75-125			
Hexachlorobutadiene	49.2 ug/L	0.8	ug/L	50.0	ug/L	98.3	50-140			
Isopropylbenzene	50.5 ug/L	1	ug/L	50.0	ug/L	101	75-125			
m+p-Xylenes	110 ug/L	2	ug/L	100	ug/L	110	75-130			
Methylene chloride	52.6 ug/L	4	ug/L	50.0	ug/L	105	55-140			

Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

LCS (BGK0793-BS1)

Prepared & Analyzed: 11/17/2023

Methyl-t-butyl ether (MTBE)	49.8 ug/L	1	ug/L	50.0	ug/L	99.5	65-125			
Naphthalene	43.8 ug/L	1	ug/L	50.0	ug/L	87.7	55-140			
n-Butylbenzene	55.5 ug/L	1	ug/L	50.0	ug/L	111	70-135			
n-Propylbenzene	60.1 ug/L	1	ug/L	50.0	ug/L	120	70-130			
o-Xylene	54.9 ug/L	1	ug/L	50.0	ug/L	110	80-120			
sec-Butylbenzene	59.2 ug/L	1	ug/L	50.0	ug/L	118	70-125			
Styrene	54.4 ug/L	1	ug/L	50.0	ug/L	109	65-135			
tert-Butylbenzene	56.3 ug/L	1	ug/L	50.0	ug/L	113	70-130			
Tetrachloroethylene (PCE)	44.4 ug/L	1	ug/L	50.0	ug/L	88.8	45-150			
Toluene	59.0 ug/L	1	ug/L	50.0	ug/L	118	75-120			
trans-1,2-Dichloroethylene	58.4 ug/L	1	ug/L	50.0	ug/L	117	60-140			
trans-1,3-Dichloropropene	62.7 ug/L	1	ug/L	50.0	ug/L	125	55-140			
Trichloroethylene	58.2 ug/L	1	ug/L	50.0	ug/L	116	70-125			
Trichlorofluoromethane	60.4 ug/L	1	ug/L	50.0	ug/L	121	60-145			
Vinyl chloride	53.8 ug/L	0.5	ug/L	50.0	ug/L	108	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	48.2		ug/L	50.0	ug/L	96.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.0		ug/L	50.0	ug/L	99.9	75-120			
Surr: Dibromofluoromethane (Surr)	49.0		ug/L	50.0	ug/L	98.0	70-130			
Surr: Toluene-d8 (Surr)	51.7		ug/L	50.0	ug/L	103	70-130			

Matrix Spike (BGK0793-MS1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

1,1,1,2-Tetrachloroethane	55.8 ug/L	0.4	ug/L	50.0	<0.4 ug/L	112	80-130			
1,1,1-Trichloroethane	58.2 ug/L	1	ug/L	50.0	<1 ug/L	116	65-130			
1,1,2,2-Tetrachloroethane	48.5 ug/L	0.4	ug/L	50.0	<0.4 ug/L	97.0	65-130			
1,1,2-Trichloroethane	58.3 ug/L	1	ug/L	50.0	<1 ug/L	117	75-125			
1,1-Dichloroethane	58.2 ug/L	1	ug/L	50.0	<1 ug/L	116	70-135			
1,1-Dichloroethylene	61.7 ug/L	1	ug/L	50.0	<1 ug/L	123	50-145			
1,1-Dichloropropene	60.2 ug/L	1	ug/L	50.0	<1 ug/L	120	75-135			
1,2,3-Trichlorobenzene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.6	55-140			
1,2,3-Trichloropropane	42.7 ug/L	1	ug/L	50.0	<1 ug/L	85.4	75-125			
1,2,4-Trichlorobenzene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	65-135			
1,2,4-Trimethylbenzene	60.2 ug/L	1	ug/L	50.0	<1 ug/L	120	75-130			



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Matrix Spike (BGK0793-MS1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

1,2-Dibromo-3-chloropropane (DBCP)	42.0 ug/L	1	ug/L	50.0	<1 ug/L	84.0	50-130			
1,2-Dibromoethane (EDB)	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	80-120			
1,2-Dichlorobenzene	52.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	70-120			
1,2-Dichloroethane	48.0 ug/L	1	ug/L	50.0	<1 ug/L	96.1	70-130			
1,2-Dichloropropane	58.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	116	75-125			
1,3,5-Trimethylbenzene	58.0 ug/L	1	ug/L	50.0	<1 ug/L	116	75-124			
1,3-Dichlorobenzene	55.5 ug/L	1	ug/L	50.0	<1 ug/L	111	75-125			
1,3-Dichloropropane	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	75-125			
1,4-Dichlorobenzene	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
2,2-Dichloropropane	56.9 ug/L	1	ug/L	50.0	<1 ug/L	114	70-135			
2-Butanone (MEK)	43.7 ug/L	10	ug/L	50.0	<10 ug/L	85.4	30-150			
2-Chlorotoluene	59.6 ug/L	1	ug/L	50.0	<1 ug/L	119	75-125			
2-Hexanone (MBK)	40.8 ug/L	5	ug/L	50.0	<5 ug/L	81.5	55-130			
4-Chlorotoluene	59.6 ug/L	1	ug/L	50.0	<1 ug/L	119	75-130			
4-Isopropyltoluene	57.6 ug/L	1	ug/L	50.0	<1 ug/L	115	75-130			
4-Methyl-2-pentanone (MIBK)	48.4 ug/L	5	ug/L	50.0	<5 ug/L	96.9	60-135			
Acetone	32.7 ug/L	10	ug/L	50.0	<10 ug/L	65.4	40-140			
Benzene	58.4 ug/L	1	ug/L	50.0	<1 ug/L	117	80-120			
Bromobenzene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
Bromochloromethane	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	65-130			
Bromodichloromethane	58.3 ug/L	0.5	ug/L	50.0	<0.5 ug/L	117	75-136			
Bromoform	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	70-130			
Bromomethane	40.0 ug/L	1	ug/L	50.0	<1 ug/L	80.1	30-145			
Carbon disulfide	47.6 ug/L	10	ug/L	50.0	<10 ug/L	95.2	35-160			
Carbon tetrachloride	56.5 ug/L	1	ug/L	50.0	<1 ug/L	113	65-140			
Chlorobenzene	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	80-120			
Chloroethane	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	60-135			
Chloroform	53.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	108	65-135			
Chloromethane	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	40-125			
cis-1,2-Dichloroethylene	56.8 ug/L	1	ug/L	50.0	<1 ug/L	114	70-125			
cis-1,3-Dichloropropene	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	47-136			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Matrix Spike (BGK0793-MS1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

Dibromochloromethane	59.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	119	60-135			
Dibromomethane	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125			
Dichlorodifluoromethane	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.9	30-155			
Ethylbenzene	57.3 ug/L	1	ug/L	50.0	<1 ug/L	115	75-125			
Hexachlorobutadiene	49.9 ug/L	0.8	ug/L	50.0	<0.8 ug/L	99.7	50-140			
Isopropylbenzene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
m+p-Xylenes	110 ug/L	2	ug/L	100	<2 ug/L	109	75-130			
Methylene chloride	52.7 ug/L	4	ug/L	50.0	<4 ug/L	105	55-140			
Methyl-t-butyl ether (MTBE)	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	65-125			
Naphthalene	45.0 ug/L	1	ug/L	50.0	<1 ug/L	89.9	55-140			
n-Butylbenzene	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-135			
n-Propylbenzene	60.4 ug/L	1	ug/L	50.0	<1 ug/L	121	70-130			
o-Xylene	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	80-120			
sec-Butylbenzene	59.3 ug/L	1	ug/L	50.0	<1 ug/L	119	70-125			
Styrene	54.4 ug/L	1	ug/L	50.0	<1 ug/L	109	65-135			
tert-Butylbenzene	57.4 ug/L	1	ug/L	50.0	<1 ug/L	115	70-130			
Tetrachloroethylene (PCE)	44.8 ug/L	1	ug/L	50.0	<1 ug/L	89.6	51-231			
Toluene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	75-120			
trans-1,2-Dichloroethylene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	60-140			
trans-1,3-Dichloropropene	63.9 ug/L	1	ug/L	50.0	<1 ug/L	128	55-140			
Trichloroethylene	58.7 ug/L	1	ug/L	50.0	<1 ug/L	117	70-125			
Trichlorofluoromethane	60.0 ug/L	1	ug/L	50.0	<1 ug/L	120	60-145			
Vinyl chloride	47.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.5	50-145			
<hr style="border-top: 1px dashed black;"/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	48.4		ug/L	50.0	ug/L	96.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.6		ug/L	50.0	ug/L	97.3	75-120			
Surr: Dibromofluoromethane (Surr)	49.0		ug/L	50.0	ug/L	98.0	70-130			
Surr: Toluene-d8 (Surr)	51.7		ug/L	50.0	ug/L	103	70-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Matrix Spike Dup (BGK0793-MSD1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

1,1,1,2-Tetrachloroethane	56.5 ug/L	0.4	ug/L	50.0	<0.4 ug/L	113	80-130	1.37	30	
1,1,1-Trichloroethane	56.9 ug/L	1	ug/L	50.0	<1 ug/L	114	65-130	2.24	30	
1,1,2,2-Tetrachloroethane	48.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	97.5	65-130	0.452	30	
1,1,2-Trichloroethane	59.7 ug/L	1	ug/L	50.0	<1 ug/L	119	75-125	2.34	30	
1,1-Dichloroethane	57.8 ug/L	1	ug/L	50.0	<1 ug/L	116	70-135	0.655	30	
1,1-Dichloroethylene	60.1 ug/L	1	ug/L	50.0	<1 ug/L	120	50-145	2.68	30	
1,1-Dichloropropene	59.6 ug/L	1	ug/L	50.0	<1 ug/L	119	75-135	0.918	30	
1,2,3-Trichlorobenzene	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	55-140	0.223	30	
1,2,3-Trichloropropane	43.5 ug/L	1	ug/L	50.0	<1 ug/L	87.0	75-125	1.79	30	
1,2,4-Trichlorobenzene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	65-135	2.30	30	
1,2,4-Trimethylbenzene	58.8 ug/L	1	ug/L	50.0	<1 ug/L	118	75-130	2.32	30	
1,2-Dibromo-3-chloropropane (DBCP)	42.3 ug/L	1	ug/L	50.0	<1 ug/L	84.6	50-130	0.664	30	
1,2-Dibromoethane (EDB)	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	80-120	2.98	30	
1,2-Dichlorobenzene	52.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	70-120	0.00	30	
1,2-Dichloroethane	47.6 ug/L	1	ug/L	50.0	<1 ug/L	95.1	70-130	1.00	30	
1,2-Dichloropropane	59.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	118	75-125	1.73	30	
1,3,5-Trimethylbenzene	57.4 ug/L	1	ug/L	50.0	<1 ug/L	115	75-124	1.06	30	
1,3-Dichlorobenzene	55.2 ug/L	1	ug/L	50.0	<1 ug/L	110	75-125	0.560	30	
1,3-Dichloropropane	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	75-125	0.124	30	
1,4-Dichlorobenzene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125	0.589	30	
2,2-Dichloropropane	56.4 ug/L	1	ug/L	50.0	<1 ug/L	113	70-135	0.918	30	
2-Butanone (MEK)	36.7 ug/L	10	ug/L	50.0	<10 ug/L	71.3	30-150		30	
2-Chlorotoluene	59.7 ug/L	1	ug/L	50.0	<1 ug/L	119	75-125	0.134	30	
2-Hexanone (MBK)	40.2 ug/L	5	ug/L	50.0	<5 ug/L	80.5	55-130		30	
4-Chlorotoluene	59.2 ug/L	1	ug/L	50.0	<1 ug/L	118	75-130	0.606	30	
4-Isopropyltoluene	57.9 ug/L	1	ug/L	50.0	<1 ug/L	116	75-130	0.485	30	
4-Methyl-2-pentanone (MIBK)	49.5 ug/L	5	ug/L	50.0	<5 ug/L	99.0	60-135	2.21	30	
Acetone	34.4 ug/L	10	ug/L	50.0	<10 ug/L	68.8	40-140		30	
Benzene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	80-120	1.66	30	
Bromobenzene	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125	1.74	30	
Bromochloromethane	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	65-130	1.69	30	



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Certificate of Analysis

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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Matrix Spike Dup (BGK0793-MSD1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

Bromodichloromethane	58.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	116	75-136	0.103	30	
Bromoform	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	70-130	1.48	30	
Bromomethane	39.8 ug/L	1	ug/L	50.0	<1 ug/L	79.7	30-145	0.526	30	
Carbon disulfide	48.3 ug/L	10	ug/L	50.0	<10 ug/L	96.6	35-160		30	
Carbon tetrachloride	57.2 ug/L	1	ug/L	50.0	<1 ug/L	114	65-140	1.21	30	
Chlorobenzene	55.0 ug/L	1	ug/L	50.0	<1 ug/L	110	80-120	1.54	30	
Chloroethane	53.7 ug/L	1	ug/L	50.0	<1 ug/L	107	60-135	0.335	30	
Chloroform	52.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	65-135	1.69	30	
Chloromethane	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	40-125	0.880	30	
cis-1,2-Dichloroethylene	55.7 ug/L	1	ug/L	50.0	<1 ug/L	111	70-125	1.85	30	
cis-1,3-Dichloropropene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	47-136	0.743	30	
Dibromochloromethane	60.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	120	60-135	1.22	30	
Dibromomethane	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	75-125	0.892	30	
Dichlorodifluoromethane	46.3 ug/L	1	ug/L	50.0	<1 ug/L	92.7	30-155	4.43	30	
Ethylbenzene	57.9 ug/L	1	ug/L	50.0	<1 ug/L	116	75-125	0.972	30	
Hexachlorobutadiene	49.2 ug/L	0.8	ug/L	50.0	<0.8 ug/L	98.5	50-140	1.25	30	
Isopropylbenzene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125	0.881	30	
m+p-Xylenes	111 ug/L	2	ug/L	100	<2 ug/L	111	75-130	1.04	30	
Methylene chloride	52.1 ug/L	4	ug/L	50.0	<4 ug/L	104	55-140		30	
Methyl-t-butyl ether (MTBE)	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	65-125	0.535	30	
Naphthalene	44.6 ug/L	1	ug/L	50.0	<1 ug/L	89.2	55-140	0.804	30	
n-Butylbenzene	56.5 ug/L	1	ug/L	50.0	<1 ug/L	113	70-135	0.265	30	
n-Propylbenzene	61.0 ug/L	1	ug/L	50.0	<1 ug/L	122	70-130	1.02	30	
o-Xylene	55.3 ug/L	1	ug/L	50.0	<1 ug/L	111	80-120	0.799	30	
sec-Butylbenzene	59.3 ug/L	1	ug/L	50.0	<1 ug/L	119	70-125	0.0169	30	
Styrene	55.0 ug/L	1	ug/L	50.0	<1 ug/L	110	65-135	0.914	30	
tert-Butylbenzene	57.8 ug/L	1	ug/L	50.0	<1 ug/L	116	70-130	0.642	30	
Tetrachloroethylene (PCE)	45.1 ug/L	1	ug/L	50.0	<1 ug/L	90.2	51-231	0.623	30	
Toluene	60.2 ug/L	1	ug/L	50.0	<1 ug/L	120	75-120	1.45	30	M
trans-1,2-Dichloroethylene	59.3 ug/L	1	ug/L	50.0	<1 ug/L	119	60-140	0.270	30	
trans-1,3-Dichloropropene	64.6 ug/L	1	ug/L	50.0	<1 ug/L	129	55-140	1.12	30	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0793 - SW5030B-MS

Matrix Spike Dup (BGK0793-MSD1)

Source: 23K0789-01

Prepared & Analyzed: 11/17/2023

Trichloroethylene	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	70-125	1.15	30	
Trichlorofluoromethane	60.0 ug/L	1	ug/L	50.0	<1 ug/L	120	60-145	0.0834	30	
Vinyl chloride	45.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	90.3	50-145	4.48	30	

Surr: 1,2-Dichloroethane-d4 (Surr)	48.2		ug/L	50.0	ug/L	96.4	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.3		ug/L	50.0	ug/L	98.6	75-120			
Surr: Dibromofluoromethane (Surr)	48.6		ug/L	50.0	ug/L	97.2	70-130			
Surr: Toluene-d8 (Surr)	52.0		ug/L	50.0	ug/L	104	70-130			



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

Blank (BGK0716-BLK1)

Prepared & Analyzed: 11/16/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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8382 Terminal Rd, Bay B

Date Issued: November 21, 2023 14:23
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

Blank (BGK0716-BLK1)

Prepared & Analyzed: 11/16/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

Blank (BGK0716-BLK1)

Prepared & Analyzed: 11/16/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	58.1		ug/L	100		58.1	5-136			
Surr: 2-Fluorobiphenyl (Surr)	35.7		ug/L	50.0		71.4	9-117			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: November 21, 2023 14:23
 8382 Terminal Rd, Bay B Project Number: [none]
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

Blank (BGK0716-BLK1)

Prepared & Analyzed: 11/16/2023

Surr: 2-Fluorophenol (Surr)	39.9		ug/L	100		39.9	5-60			
Surr: Nitrobenzene-d5 (Surr)	35.4		ug/L	50.0		70.9	5-151			
Surr: Phenol-d5 (Surr)	29.5		ug/L	100		29.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	39.3		ug/L	50.0		78.5	5-141			

LCS (BGK0716-BS1)

Prepared & Analyzed: 11/16/2023

1,2,4-Trichlorobenzene	28.4 ug/L	10.0	ug/L	50.0	ug/L	56.9	57-130			L
1,2-Dichlorobenzene	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.3	22-115			
1,3-Dichlorobenzene	29.2 ug/L	10.0	ug/L	50.0	ug/L	58.3	22-112			
1,4-Dichlorobenzene	28.8 ug/L	10.0	ug/L	50.0	ug/L	57.6	13-112			
2,4,6-Trichlorophenol	30.6 ug/L	10.0	ug/L	50.0	ug/L	61.3	52-129			
2,4-Dichlorophenol	38.5 ug/L	10.0	ug/L	50.0	ug/L	77.1	53-122			
2,4-Dimethylphenol	38.0 ug/L	5.00	ug/L	50.0	ug/L	76.0	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	50.4	48-127			
2,4-Dinitrotoluene	41.5 ug/L	10.0	ug/L	50.0	ug/L	83.0	10-173			
2,6-Dinitrotoluene	41.5 ug/L	10.0	ug/L	50.0	ug/L	83.0	68-137			
2-Chloronaphthalene	32.4 ug/L	10.0	ug/L	50.0	ug/L	64.9	65-120			L
2-Chlorophenol	28.6 ug/L	10.0	ug/L	50.0	ug/L	57.2	36-120			
2-Nitrophenol	38.5 ug/L	10.0	ug/L	50.0	ug/L	77.0	45-167			
3,3'-Dichlorobenzidine	54.1 ug/L	10.0	ug/L	50.0	ug/L	108	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	72.6	53-130			
4-Bromophenyl phenyl ether	35.9 ug/L	10.0	ug/L	50.0	ug/L	71.8	65-120			
4-Chlorophenyl phenyl ether	38.5 ug/L	10.0	ug/L	50.0	ug/L	77.0	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	21.8	13-129			
Acenaphthene	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.6	60-132			
Acenaphthylene	42.8 ug/L	10.0	ug/L	50.0	ug/L	85.6	54-126			
Acetophenone	34.0 ug/L	20.0	ug/L	50.0	ug/L	68.0	0-200			
Anthracene	43.8 ug/L	10.0	ug/L	50.0	ug/L	87.5	43-120			
Benzo (a) anthracene	46.2 ug/L	10.0	ug/L	50.0	ug/L	92.3	42-133			
Benzo (a) pyrene	51.8 ug/L	10.0	ug/L	50.0	ug/L	104	32-148			
Benzo (b) fluoranthene	48.0 ug/L	10.0	ug/L	50.0	ug/L	96.1	42-140			
Benzo (g,h,i) perylene	48.1 ug/L	10.0	ug/L	50.0	ug/L	96.3	10-195			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: November 21, 2023 14:23
 Project Number: [none]
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

LCS (BGK0716-BS1)

Prepared & Analyzed: 11/16/2023

Benzo (k) fluoranthene	44.0 ug/L	10.0	ug/L	50.0	ug/L	88.0	25-146			
bis (2-Chloroethoxy) methane	37.5 ug/L	10.0	ug/L	50.0	ug/L	75.0	49-165			
bis (2-Chloroethyl) ether	39.0 ug/L	10.0	ug/L	50.0	ug/L	78.0	43-126			
2,2'-Oxybis (1-chloropropane)	37.1 ug/L	10.0	ug/L	50.0	ug/L	74.2	63-139			
bis (2-Ethylhexyl) phthalate	59.5 ug/L	10.0	ug/L	50.0	ug/L	119	29-137			
Butyl benzyl phthalate	59.4 ug/L	10.0	ug/L	50.0	ug/L	119	10-140			
Chrysene	48.2 ug/L	10.0	ug/L	50.0	ug/L	96.3	44-140			
Dibenz (a,h) anthracene	48.4 ug/L	10.0	ug/L	50.0	ug/L	96.8	10-200			
Diethyl phthalate	43.1 ug/L	10.0	ug/L	50.0	ug/L	86.3	10-120			
Dimethyl phthalate	39.5 ug/L	10.0	ug/L	50.0	ug/L	79.0	10-120			
Di-n-butyl phthalate	59.6 ug/L	10.0	ug/L	50.0	ug/L	119	10-120			
Di-n-octyl phthalate	55.4 ug/L	10.0	ug/L	50.0	ug/L	111	19-132			
Fluoranthene	51.1 ug/L	10.0	ug/L	50.0	ug/L	102	43-121			
Fluorene	44.0 ug/L	10.0	ug/L	50.0	ug/L	88.0	70-120			
Hexachlorobenzene	27.3 ug/L	1.00	ug/L	50.0	ug/L	54.6	10-142			
Hexachlorobutadiene	31.6 ug/L	10.0	ug/L	50.0	ug/L	63.2	38-120			
Hexachlorocyclopentadiene	23.0 ug/L	10.0	ug/L	50.0	ug/L	46.1	10-76			
Hexachloroethane	31.9 ug/L	10.0	ug/L	50.0	ug/L	63.8	55-120			
Indeno (1,2,3-cd) pyrene	46.1 ug/L	10.0	ug/L	50.0	ug/L	92.2	10-151			
Isophorone	27.1 ug/L	10.0	ug/L	50.0	ug/L	54.2	47-180			
Naphthalene	30.6 ug/L	5.00	ug/L	50.0	ug/L	61.2	36-120			
Nitrobenzene	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.7	54-158			
n-Nitrosodimethylamine	25.2 ug/L	10.0	ug/L	50.0	ug/L	50.5	10-85			
n-Nitrosodi-n-propylamine	34.4 ug/L	10.0	ug/L	50.0	ug/L	68.7	14-198			
n-Nitrosodiphenylamine	31.6 ug/L	10.0	ug/L	50.0	ug/L	63.1	12-97			
p-Chloro-m-cresol	39.5 ug/L	10.0	ug/L	50.0	ug/L	79.0	10-142			
Pentachlorophenol	34.9 ug/L	20.0	ug/L	50.0	ug/L	69.7	38-152			
Phenanthrene	48.6 ug/L	10.0	ug/L	50.0	ug/L	97.3	65-120			
Phenol	17.0 ug/L	10.0	ug/L	50.5	ug/L	33.6	17-120			
Pyrene	52.5 ug/L	10.0	ug/L	50.0	ug/L	105	70-120			
Pyridine	29.2 ug/L	10.0	ug/L	50.0	ug/L	58.3	10-103			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGK0716 - SW3510C/EPA600-MS

LCS (BGK0716-BS1)

Prepared & Analyzed: 11/16/2023

Surr: 2,4,6-Tribromophenol (Surr)	67.5		ug/L	100	ug/L	67.5	5-136			
Surr: 2-Fluorobiphenyl (Surr)	36.7		ug/L	50.0	ug/L	73.3	9-117			
Surr: 2-Fluorophenol (Surr)	40.9		ug/L	100	ug/L	40.9	5-60			
Surr: Nitrobenzene-d5 (Surr)	38.1		ug/L	50.0	ug/L	76.2	5-151			
Surr: Phenol-d5 (Surr)	30.6		ug/L	100	ug/L	30.6	5-60			
Surr: p-Terphenyl-d14 (Surr)	45.4		ug/L	50.0	ug/L	90.9	5-141			

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



1941 Reymet Road • Richmond, Virginia 23230 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2023



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Summary of Data Qualifiers

C Continuing calibration verification response for this analyte is outside specifications.

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: Total Env. Concepts PROJECT NAME/Quote #: Halstead
 CONTACT: Shanna Hymanik SITE NAME:
 ADDRESS: PROJECT NUMBER:
 PHONE #: (804) 389-7983 P.O. #: 4260155-001
 FAX #: EMAIL: Shanna.Hymanik@totalenv.com Pretreatment Program:
 Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:
 REGULATORY STATE: Turn Around Time: Circle 10 5 Days or 1 Day(s) 24hr

SAMPLER NAME (PRINT): Shanna Hymanik SAMPLER SIGNATURE: [Signature]
 Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop	Grab Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		COMMENTS
											VOLS 8260	VOLS 8270	
1) 1640 Coopers 64	X			11/16/23	1000	1200	6hr		6hr	4	X	X	Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol PEP state lead
2) 1609 Coopers	X				1130				1	X	X		
3) 1604 Coopers	X				1145				1	X	X		
4) 100 Patsel	X				1215				2	X	X		
5) top blue									2	X	X		
6)													PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
7)													
8)													
9)													
10)													

LAB USE ONLY Therm ID: 271 COOLER TEMP 6.5 °C
 Custody Seals used and intact? (Y/N) (Y) Received on 11/16/23
 QC Data Package Level III Level IV
TEC-Springfield 23K0878
Halstead
 Recd: 11/16/2023 Due: 11/21/2023
 RECEIVED: [Signature] DATE / TIME: 11-16-23 16:25
 RECEIVED: [Signature] DATE / TIME: 11-16-23 16:25
 RECEIVED: [Signature] DATE / TIME: 11-16-23 16:25



Sample Preservation Log

RCJ

Analyst Performing Check:

Date Performed: 11-16-23

Order ID: 23/1067 B

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (525/827/625)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Other
01	A																													
02	A																													
03	A																													
04	A																													

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
 H2SO4 ID: _____ NazS2O3 ID: _____
 HCL ID: _____ NazSO3 ID: _____
 CrVI preserved date/time: _____
 * pH must be adjusted between 9.3 - 9.7
 Ammonia Buffer Sol'n ID: _____
 5N NaOH ID: _____



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	November 21, 2023 14:23
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	6.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

Shanna Hryvniak requested a 3 day TAT at drop off. VJT 11/16/2023 1627



Appendix D
FOIA Documentation

55 Patsel Court



3404 Aerial Way Drive • Roanoke, VA 24018
Phone (540) 343-3618 • Fax (540) 342-2054

Tom Ramaska
1732 Carroll Ave., NW

Environmental Services Division Certificate of Analysis

Date Reported: October 5, 2007

Sample Code: 07-3526

Bacti Code 1874

Roanoke

VA 24017

Chain of Custody Information

Date Collected: October 3, 2007

Time Collected: 1830

Collected By: Client

Sample Notes: Building Permit # 46511
Performed for: Tom Ramaska, Sharon Henegar

OAK Run

Sample Location: Lot 13, Patsel Court, Hardy, Va.

Date Received: October 4, 2007

Time Received: 0830

Sample Type: Well

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	10/04/2007	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes.
Exceptions are noted in the analytical notes section of the certificate of analysis.

Commonwealth of Virginia Uniform Water Well Completion Report

Owner: THOMAS RAMASKA
 Address: _____
 Phone: _____
 Location: _____

Tax Map ID
 VDH Permit 733-07-0083
 WVCB Permit _____
 WVCB ID _____
 County FRANKLIN

* Well Data *

General Information
 Drilling Method DIR
 Depth to Bedrock 22
 Static Water Level _____
 Well Disinfected (Y or N) _____

Date Completed 5-29-07
 Yield 2 (GMP)
 Stabilized Water Level _____
 Disinfectant Used _____

Total Depth of Well 505
 Length of Test _____
 Natural Flow (Rate) _____
 Amount Used _____

Casing
 From _____ To 52
 Size 6.25 Material PVC
 Weight/Schedule 27.6

From _____ To _____
 Size _____ Material _____
 Weight/Schedule _____

From _____ To _____
 Size _____ Material _____
 Weight/Schedule _____

Gravel Pack
 From _____ To _____

From _____ To _____

From _____ To _____

Grout
 From 0 To 52
 Bore Hole Size 10.75
 Type Water
 Method Pressure

From _____ To _____
 Bore Hole Size _____
 Type _____
 Method _____

From _____ To _____
 Bore Hole Size _____
 Type _____
 Method _____

Water Zones or Screened Intervals
 From 36.0 To 36.1
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

* Use Data *

Private Well: Domestic _____ Agricultural _____ Industrial _____ Monitoring _____
 Public Well: Community _____ Non-community _____

* Abandonment Information *

Bored or Dug Wells
 Casing Removed, Y or N? _____
 If Y, Depth to which casing was removed: _____
 Depth and Type of Fill: _____
 Source of Fill _____
 Bentonite Plugs: From _____ to _____ From _____ to _____
 Method of permanently marking location: _____

Wells other than Bored Wells
 Casing removed, Y or N? _____
 Depth to which casing was removed: _____
 Applicable, depth(s), and type of gravel/sand fill: _____
 Source of gravel or sand: _____
 Cement: From _____ to _____ From _____ to _____

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* Drillers Log *

Depth	Description of Formation or Sediment	Remarks
0-52 clay granite 52-805 granite		

(Use Additional Sheets if necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Name George Kikay
Address 2111 1st St & Malibu Blvd
Malibu CA 90261
Phone 724 129

Drillers Signature _____
Date _____ Representing _____

2705007631

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department

Applicant Paul Crawford Telephone No. 537-1307

Address 1611 Norfolk Avenue Roanoke, Va 24101

Owner Same Address _____

Location _____

Tax Map S-3-Mary Subdivision Oak Run

Block/Section _____ Lot 13

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Describe _____ Yes No
side slope

2. Slope 38 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No

If yes, note type of test performed and attach _____

Site Approved: Drainfield to be placed at 54" depth at site designated on permit.

Site Disapproved:

- Reason for rejection:
- 1 Position in landscape subject to flooding or periodic saturation.
 - 2 Insufficient depth of suitable soil over hard rock
 - 3 Insufficient depth of suitable soil to seasonal water table.
 - 4 Rates of absorption too slow.
 - 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
 - 6 Proposed system too close to well.
 - 7 Other Specify _____

(attach additional pages if necessary)

Date of Evaluation

3/6/03

Page 2 of 4

Profile Description
SOIL EVALUATION REPORT

Lot #13

See application sketch

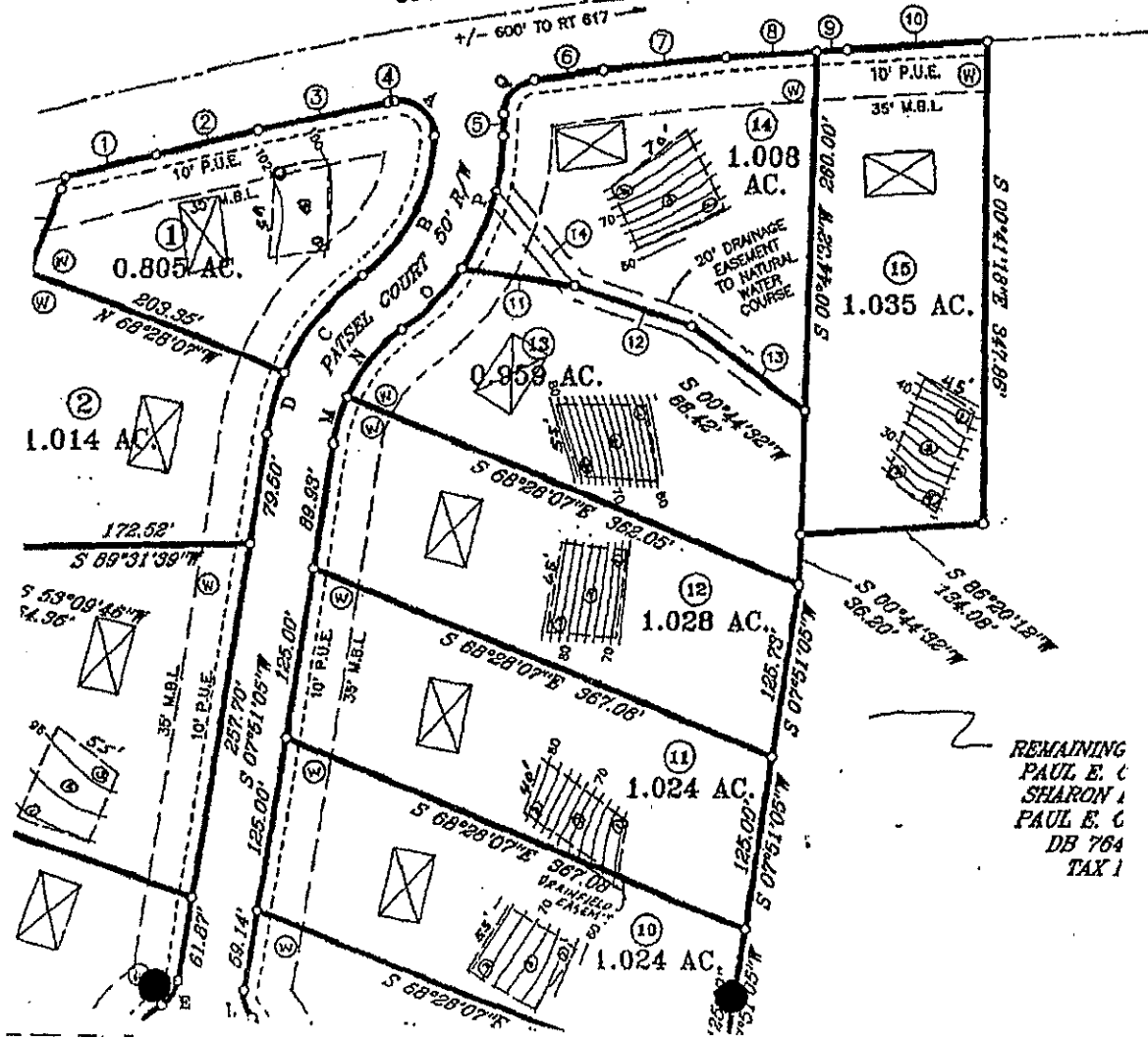
See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of, color, texture, etc.	Texture Group
1	A	0"-4"		
	Bt1	4"-30"	Brown Loam	II
	Bt2	30"-42"	Dark Red Clay	IV
	C1	42"-60"	Red Clay Loam	III
	C2	60"-72"	Brownish Red Mic. Loam	II
			Brown Mic. Loam	II
2	A	0"-4"		
	Bt1	4"-18"	Brown Loam	II
	Bt2	18"-36"	Dark Red Clay	IV
	C	36"-72"	Red Clay Loam	III
			Brownish Red slightly Dense Fine	II
			Sandy Loam w/Many Fine Weathered	
		Rock Fragments		
3	A	0"-4"		
	Bt1	4"-30"	Brown Loam	II
	Bt2	30"-42"	Dark Red Clay	IV
	C	42"-72"	Red Clay Loam	III
			Brownish Red Mic. Loam	II
Remarks:				

VA ROUTE 681 50' R/W
COOPERS COVE ROAD

+/- 600' TO RT 617



REMAINING
PAUL E. C.
SHARON I.
PAUL E. C.
DB 764
TAX 1

Appendix 6

Abbreviated Design Form

Lot # 13

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 330)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 55 Length of available area 55
- E. Width of trench 3'
- F. Number of trenches 6
- G. Center-to-center spacing 12
- H. Width required 63 Width of available area 63
 $G(F-1) + E$
- I. Total square footage required (line B times line C) 990
- J. Square footage in design (D*E*F) 990
- K. Is a reserve area required? yes No

Completion Statement

10:00

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133-07-0083

Franklin Co Health Department

Name of Company/Corporation/Individual: James Barlow

Address: _____ Telephone: _____

Owner's Name Thomas Ramarke

Owner's Address _____

Location of Installation: Lot 13 Block _____

Section: _____ Subdivision: Oak Run

Other: 116 R 681, R-Postal

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 2/26/07 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

5/16/07
Date

James Barlow
Signature and Title



RING INDUSTRIAL

STATE OF VIRGINIA

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of Franklin Sewage Disposal System Construction Permit ID # 133 07 0093
Tax Map # S-3-13 or Property Description:
Owner: Tom Ramaske Date: 5-21-07

LIMITED FIVE YEAR WARRANTY

a) RING Industrial Group, LP, warrants that the EZflow™ EPS Aggregate System manufactured by RING Industrial Group, LP, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP 116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.

b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below, (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECT TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR FE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that an EZflow™ EPS Aggregate System -- MODEL 1203 H, ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereinafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION--Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Address of Installation (Street) DAK Run subdivision Name of Property Owner (print) Tom Ramaske
(City) Fossil Ct Hardy VA Address of Property Owner 1232 Carroll Ave
(Subdivision Name) DAK Run 13 Property Owner Signature Thomas Ramaske Date 5/31/07
(Lot #) (Lot #)

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP 116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

Business Name of Installer James Barclow EX, LLC Name (print)
Address of Installer (Street/P.O. Box) 3665 Providence Church Rd. Henry VA 24102
Phone Signature Date 5-25-07
(City) (State) (Zip)

RECEIVED JUN 07 2007

60 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Crawford and Crawford Farm, LLC
1611 Norfolk Ave
Roanoke, Virginia 24013
Phone: (540) 342-8643

Health Dept. ID: 133 03 1222

Tax Map: 5-3

Locality: Franklin

Property Location

Property Address: 60 Patsel Court
Hardy, Virginia 24101

Subdivision: Oak Run , Lot 1

Directions: 40E, L122, L-Hardy Rd, to L-2nd Edwardsville Rd, R-Coopers Cove Rd, driveway past 1850 Cooper Cove Rd

=====

Crawford and Crawford Farm, LLC is hereby granted permission to operate a I Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

June 13, 2005
Effective Date

Briana L. Brooks
EHS

Signed June 13, 2005



Franklin County Health
 Department
 365 Pell Ave., P.O. Box 249
 Rocky Mount, Virginia
 24151
 (540) 484-0292
 (540) 484-0314

Septic Tank - Soil Absorption System Construction Permit
 Health Department ID Number: 133 03 1222

Owner Information		
Crawford and Crawford Farm, LLC 1449 Lakesridge Circle Troutville, Virginia 24175	Phone:	(540) 342-8643

Location Information			
Subdivision Name:	Oak Run	Tax Map:	5-3
Property Address:	Patsel Court	GPIN:	
County:		Legal Description:	Section Block Lot 1
Directions:			

General Information	
System Type: Type of Property: Residential Conditions: * All plumbing fixtures must be higher than finished grade over drainfield or a pump may be required. * All soils work & design criteria performed and certified by AOSE Frank Davis. * Divert roof drains and surface water from drainfield area. * Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. * Driveway over drainfield must be machine laid asphalt or concrete and must not cover d-box. * Maintain 100' minimum from subsurface sewage disposal system to all wells. * Maintain 50' minimum from septic tank to all wells. * Maintain 50' minimum from subsurface sewage disposal system to IIB wells. * Permit void if house location interferes with approved sewage disposal system area. * Sidewalls of all ditches and excavations exceeding 5' in depth must be shored to prevent caving.	Number of Bedrooms: 3 Daily Flow: 450 gallons

Sewer Line	Distribution Box Information
[Default 4"] SCH 40 PVC or equivalent	No. of Boxes: 1
	No. of Outlets: 6

Conveyance Line/Force Main Information	Header Line Information
Method: Gravity Distribution Box	1500# crush
Material: 4" diameter, minimum crush strength 1500#	Minimum slope 2"
Pipe Diameter: 4"	
Slope: only for non-pump - 6" per 100'	

Septic Tank - Inlet Outlet Structure	Percolation Lines and Absorption Area
Capacity: 1000 gallons	Slope: 2-4" per 100'
The inlet structure shall be one to two inches higher than the outlet structure and shall extend six to eight inches below and eight to ten inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and eight to ten inches above the normal liquid level.	Percolation lines: 4" diameter
To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options:	Center to Center Spacing: 10'
1. Inspection port.	Installation Depth: 78"
2. Effluent filter.	Depth of Aggregate: 13"
3. Reduced maintenance tank	Size of aggregate: 0.5-1.5"
	# of Laterals: 5
	Lateral Length: 65'
	Lateral Width: 3'
	# of Square Feet: 975

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Pump Specifications

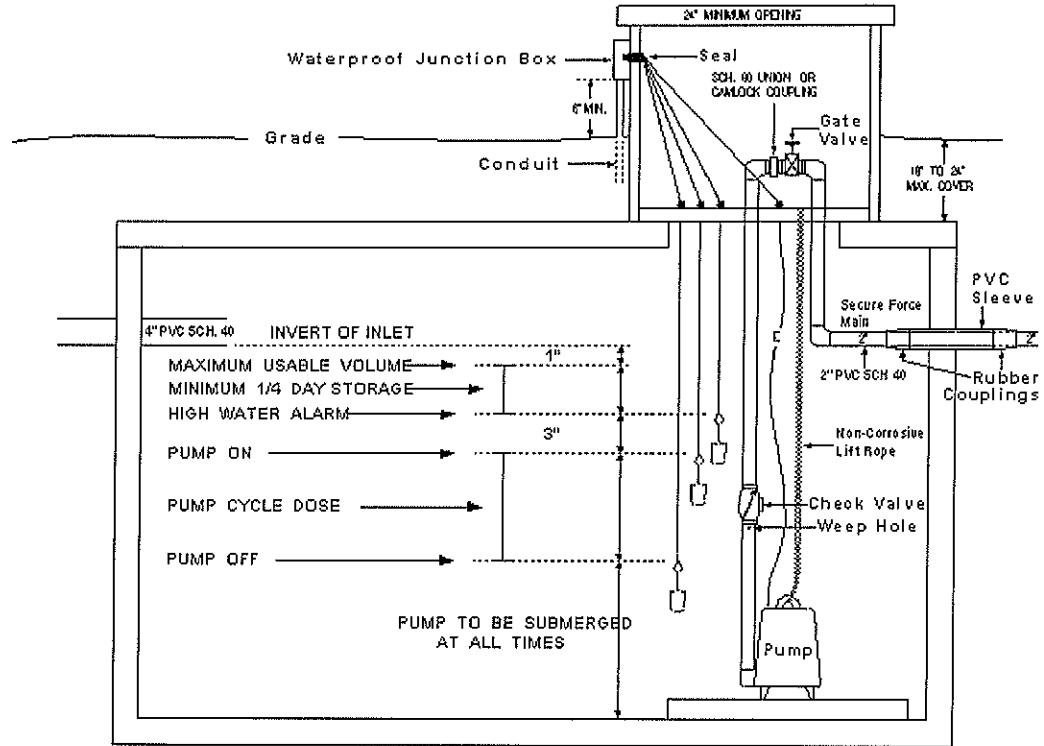
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Pump Specifications

Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute

Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.

Pump Must Provide Gallons per Minute at System Head.



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Construction Drawing

Owner Information

Crawford and Crawford Farm, LLC 1449 Lakeridge Circle Troutville, Virginia 24175	Phone: (540) 342-8643 HD ID #: 133 03 1222
--	---

Commonwealth of Virginia
Uniform Water Well Completion Report

Owner- Crawford & Crawford Farm LLC
Address-
Phone-
Location- Lot 1

Tax Map ID- 5-3
VDH Permit- 133-03-1222
WVCB ID-
County- Franklin

Well Data

General Information

Drilling Method-	Air Rotary	Date Completed-	04-28-04	Total Depth of Well-	600'
Depth to Bedrock-	58'	Yield-	6 (GPM)	Length of Test-	
Static Water Level-	150'	Stabilized Water Level-		Natural Flow (Rate)-	
Well Disinfected?-	Yes	Disinfectant Used-	Chlorine Tabs	Amount Used-	2#

Casing

From 0	To 83'	From	To	From	To
Size- 6 1/8	Material- PVC	Size-	Material-	Size-	Material-
Weight/Schedule-		Weight/Schedule-		Weight/Schedule-	

Gravel Pack

From	To	From	To	From	To
------	----	------	----	------	----

Grout

From 0	To 83'	From	To	From	To
Bore Hole Size- 10"		Bore Hole Size-		Bore Hole Size-	
Type- Baroid Benseal		Type-		Type-	
Method- Pumped		Method-		Method-	

Water Zones or Screened Intervals

From 563	To 564	From	To	From	To
Mesh Size-	Diameter-	Mesh Size-	Diameter-	Mesh Size-	Diameter-
From	To	From	To	From	To
Mesh Size-	Diameter-	Mesh Size-	Diameter-	Mesh Size-	Diameter-

Use Data

Private Well:	Domestic	X	Agricultural	Industrial	Monitoring
Public Well:	Community		Non Community		

Drillers Log

(Use additional sheets if necessary)

Depth	Description of Formation or Sediment	Remarks
0-58 58-600	Overburden Granite	

I certify that the above information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Drilling Contractor- **Rorrer Well Drilling, Inc.**

Address- **P.O. Box 674, Christiansburg, VA 24068**

Phone- **(540) 552-6029/389-0070/745-6448**

Drillers Signature *Eric P. Rorrer* Date 4-28-04

Representing- **Rorrer Well Drilling, Inc.**

Virginia Contractors License Number- **2705040836A**



3404 Aerial Way Drive • Roanoke, VA 24018
Phone (540) 343-3818 • Fax (540) 342-2054

High Country Contractors
WILL PICK UP

Environmental Services Division Certificate of Analysis

Date Reported: June 10, 2005
Sample Code: 05-2708
Bactl Code 1484

Chain of Custody Information

Date Collected: June 9, 2005
Time Collected: 1138
Collected By: Client
Sample Notes: Building Permit # 40209

Date Received: June 9, 1905
Time Received: 1225
Sample Type: Well

Sample Location: 60 Patsel Ct., Hardy, Va.

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	06/09/05	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

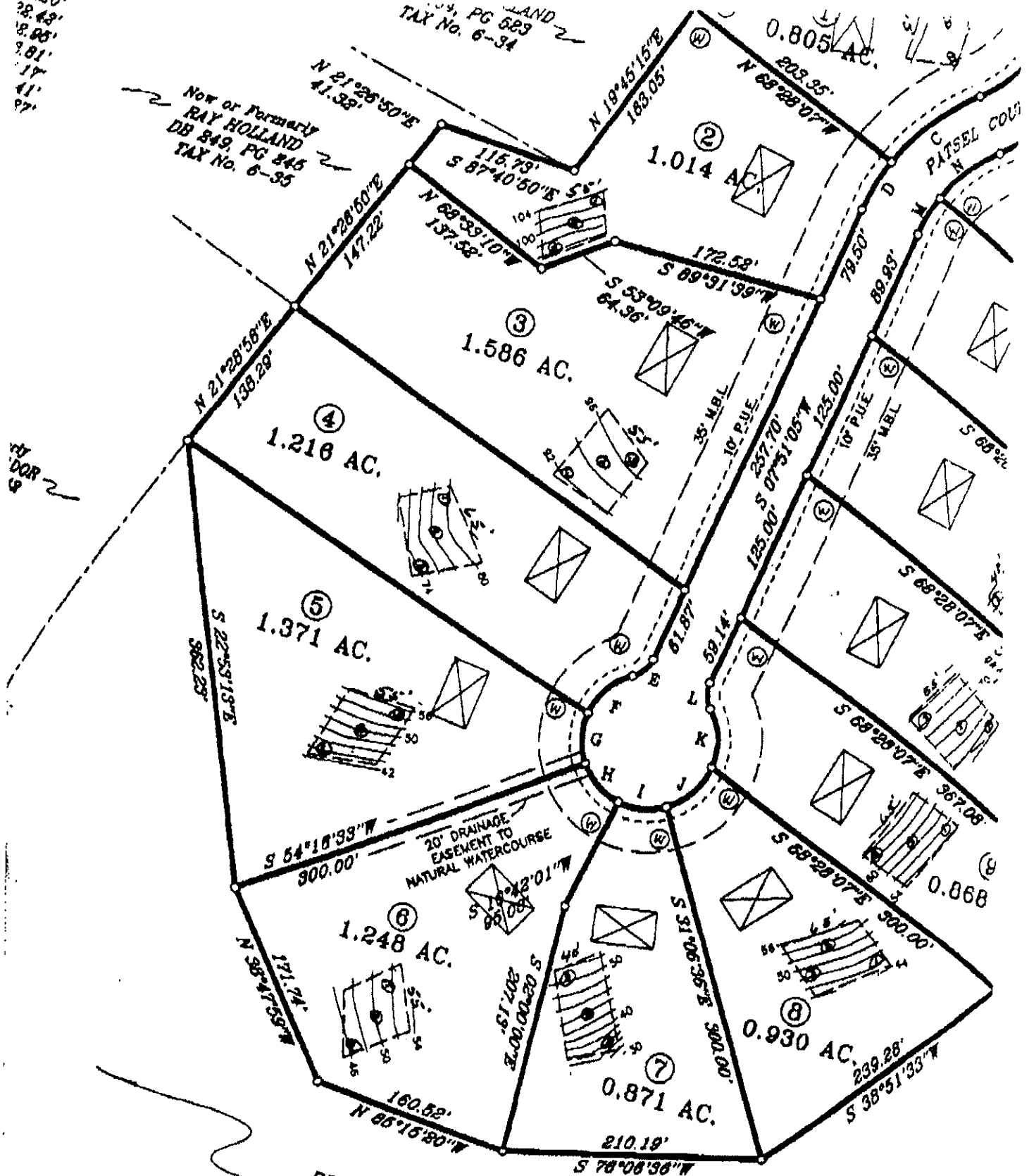
Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes. Exceptions are noted in the analytical notes section of the certificate of analysis.

58.20'
28.43'
18.86'
9.81'
11'
41'
27'

LAND 2
TAX No. 6-34

Now or Formerly
RAY HOLLAND
DB 849, PG 845
TAX No. 6-35

HT
DOR 2



REMAINING PROPERTY OF
PAUL E. CRAWFORD, SR.
SHARON P. CRAWFORD
PAUL E. CRAWFORD, JR.
DB 764, PG 140
TAX N-

Sharon Crawford
SIGNED _____ DATE 11/19/03
ALL WELLS, SEPTIC TANKS AND DRAINFIELDS
WITHIN 200 FEET OF MY PROPOSED/EXISTING
BUILDINGS ARE SHOWN ON THIS DIAGRAM

Completion Statement

(7pm)

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number: 133-03-1222

Franklin County Health Department

Name of Company/Corporation/Individual: High Country Contractors

Address: _____ Telephone: _____

Owner's Name Crawford & Crawford Farm, LLC

Owner's Address 1449 Lakeside Circle, Troutville, VA

Location of Installation: Lot 1 Block _____

Section: _____ Subdivision: Oak Run

Other: (on Pastel Ct) - 122 N. L Hardy Rd, take L on 2nd turn for Edwardsville Rd, R Coopers Cnc, 1 driveway past 1850 Coopers Cnc Rd

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 12/3/04 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

8/3/04
Date

R M Marshall
Signature and Title

JUN 10 2005

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of FRANKLIN
Wastewater Disposal System Construction Permit ID # 132-03-1222 Tax Map # 5-3
Property description: LOT 1 PARKWAY PATTELET
Owner CAROL ANN PATTELET 10-15-04

LIMITED FIVE YEAR WARRANTY

a) King Industrial Group, EZflow warrants that the EZflow™ EPS Aggregate System manufactured by King Industrial Group, EZflow, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health OMP 116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.

b) System failures determined to be due to improper filling, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare these conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event breach of warranty is due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES; THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE, SPECIFICALLY EXCLUDED ARE DAMAGES DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE. THE UNITS BEING SUBJECT TO STRESSES OR VEHICLE TRAFFIC OR OTHER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (a).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that a EZflow™ EPS Aggregate System - Model EZ... ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the FRANKLIN County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #16. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to ensure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their inspectors, officers, directors, employees, representatives, and agents (hereafter referred to as the "COMMONWEALTH OF VIRGINIA"), from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and Amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to file and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION - Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §22.1-164.01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's indemnification of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §22.1-164.01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Address of Installation (Street), CITY, VA ZIP
Property Owner Name and Address of Property Owner
Property Owner Signature Date

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP #16, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

Business Name of Installer, Name (print)
Address of Installer (Street, P.O. Box), (City), (State), (Zip)
Signature Date

Appendix 2
Soil Summary Report

133-03-1222

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department

Applicant Paul Crawford Telephone No. 537-1307

Address 1811 Norfolk Avenue Roanoke, Va 24101

Owner Same Address _____

Location _____

Tax Map 4-May 5-3 Subdivision Oak Run

Block/Section _____ Lot 1

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
Describe side slope

2. Slope 7 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No

If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 78" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 insufficient depth of suitable soil over hard rock
- 3 insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

3 bdr, w/ basement & fixtures
termite treatment.

Date of Evaluation

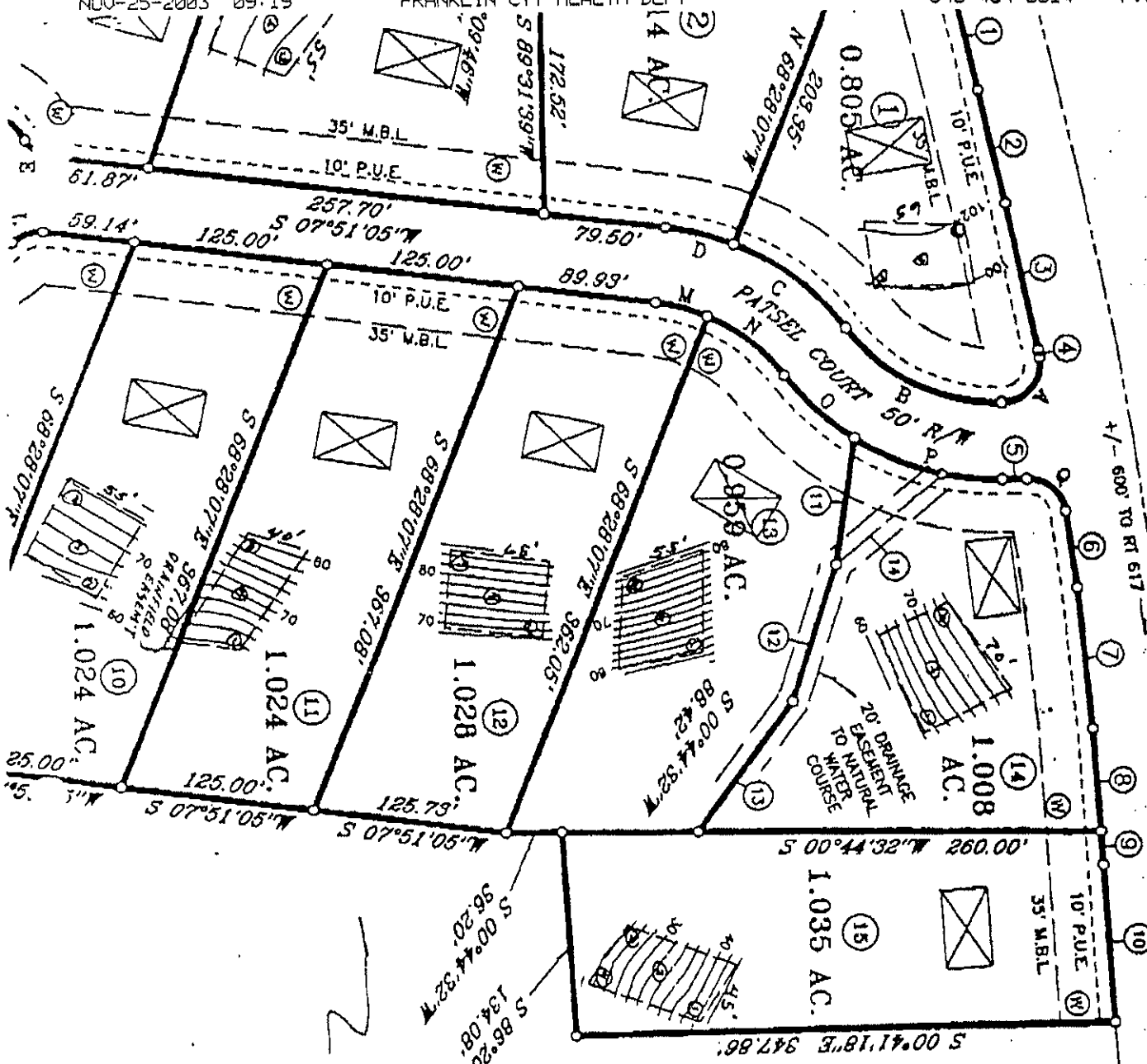
3/12/03

Page 2 of 4

Profile Description
SOIL EVALUATION REPORT

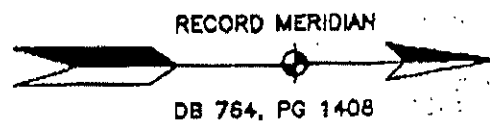
Lot #1

See application sketch		See construction permit		X See attached
Hole #	Horizon	Depth (Inches)	Description of, color, texture, etc.	Texture Group
1	Fill	18"-0"		
	A	0"-24"	Brown Loam	II
	Bt1	24"-48"	Red Clay	IV
	Bt2	48"-66"	Red Clay Loam	III
	C1	66"-84"	Red Mic. Loam	II
	C2	84"-96"	Brown Mic. Loam	II
2	Bt	0"-36"	Red Clay Loam	III
	C1	36"-84"	Pale Brown Mic. Loam	II
	C2	84"-96"	Dark Brown Mic. Loam	II
3	Bt	0"-12"	Red Clay Loam	III
	C	12"-96"	Brown Mic. Loam	II
Remarks:				



VA ROUTE 681 50' R/W
 COOPERS COVE ROAD
 +/- 600' TO RT 617

REMAINING PROPERTY OF
 PAUL E. CRAWFORD, SR.
 SHARON P. CRAWFORD
 PAUL E. CRAWFORD, JR.
 DB 764, PG 1404
 TAX No. 5-3



Appendix 6
Abbreviated Design Form

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 325
- C. Number of bedrooms 3

Area Calculations

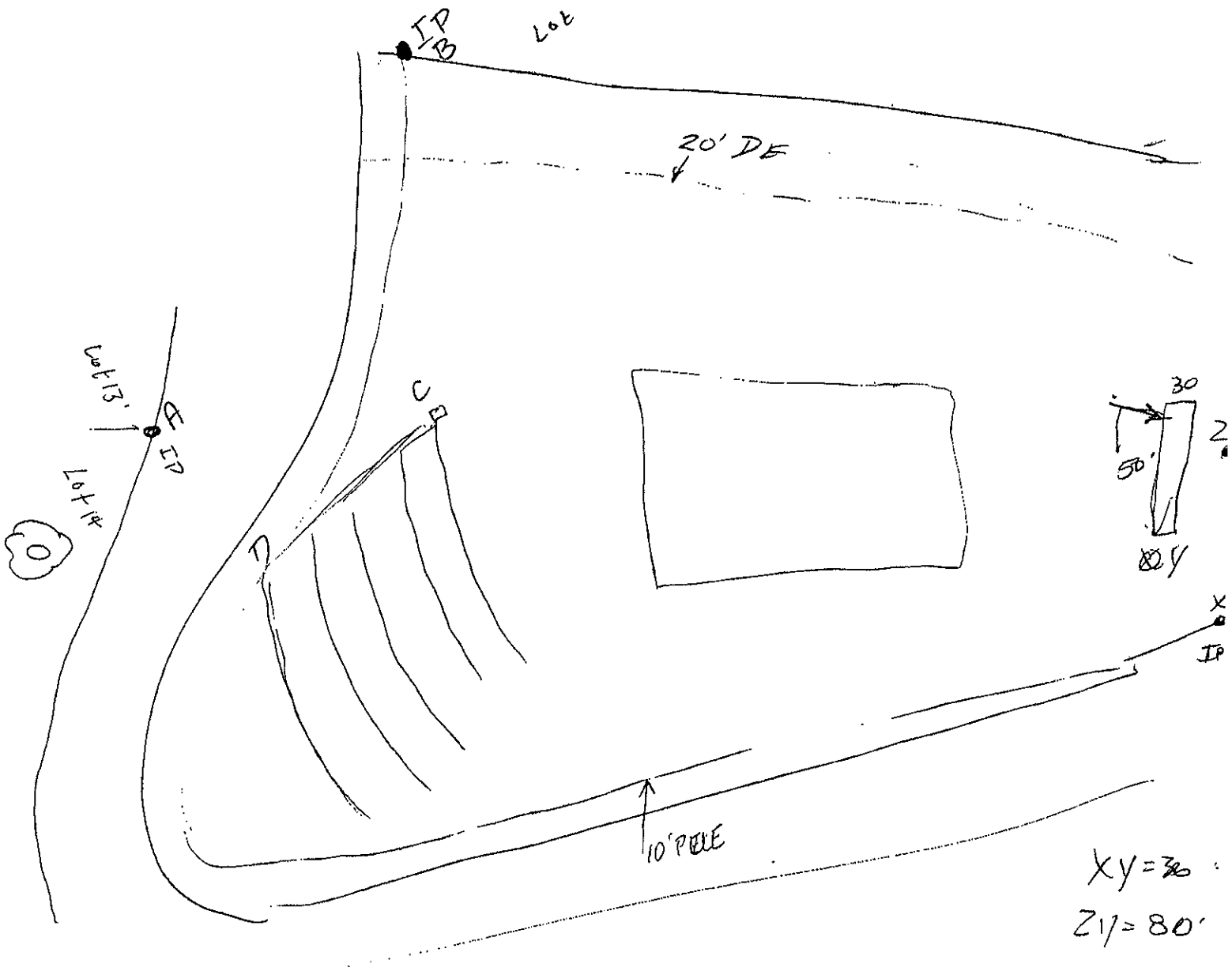
- D. Length of trench 65 Length of available area 65
- E. Width of trench 3'
- F. Number of trenches 5
- G. Center-to-center- spacing 9
- H. Width required 39 Width of available area 59
G(F-1) + E
- I. Total square footage required (line B times line C) 975
- J. Square footage in design (D*E*F) 975
- K. Is a reserve area required? yes No

5-653

AD=88
AC=124

BC=87
BD=113

Lot #1



$xy=30$
 $z1=80'$

76 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Leslie A. Wright
63 Summit Way, SW
Roanoke, Virginia 24014
Phone: (540) 989-8909

Health Dept. ID: 133 05 1260
Tax Map: 5.3-2
Locality: Franklin

Property Location

Property Address: 76 Patsel Ct
Hardy, Virginia 24101
Subdivision: Oak Run , Lot 2
Directions: 122, L-116, R681, R-Patsel Ct , 2nd lot on R

=====

Leslie A. Wright is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

January 17, 2007
Effective Date

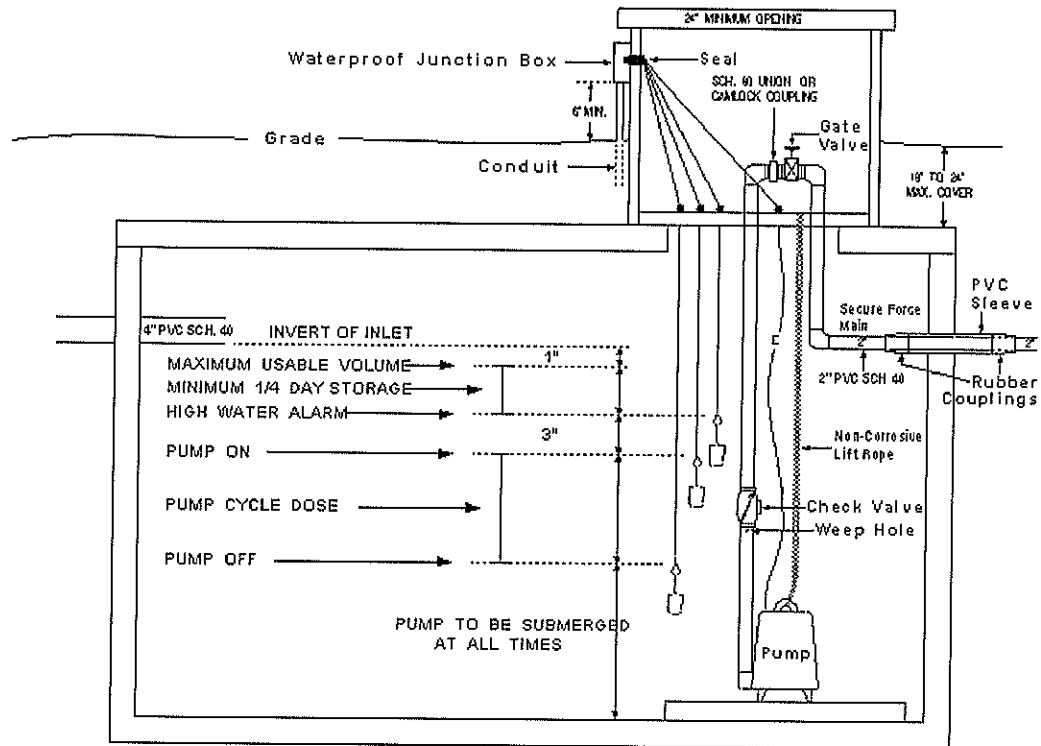
Rodney Hughes
EHS

Signed January 17, 2007

Septic Tank - Soil Absorption System Construction Permit
Health Department ID Number: 133 04 0431

Owner / Agent Information	
Owner: Leslie A. Wright 63 Summit Way, SW Roanoke, Virginia 24014 Owner Phone: (540) 989-8909	
Location Information	
Subdivision: Oak Run , Lot 2 Property Address: Paitzel Ct Locality: Franklin	Tax Map: 5.3-2
Directions: 122, L-116, R681, 2 mi to sub on R, 2nd lot on R	
General Information	
System Type: I Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum
Sewer Line	
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	Distribution Box Information No. of Boxes: 3 No. of Outlets: 8
Conveyance Line / Force Main Information	
Method: Pump to Distribution Box Material: Pressure type with pressure-type joints Pipe Diameter: 2" Minimum Slope: 6" per 100' (only for non-pump)	Header Line Information ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
Septic Tank - Inlet Outlet Structure	
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Percolation Lines and Absorption Area Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 11' Installation Depth: 42" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 4 Laterals to be 55' long, x 3' wide Install 660 Square Feet Total Reserve Area Required for Future Repairs this is d/f 1 of split system
Please Note: * Maintain 50' minimum from subsurface sewage disposal system to all wells. * Maintain 50' minimum from septic tank to all wells. * See the Construction Drawing page for site sketch showing the system location.	

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



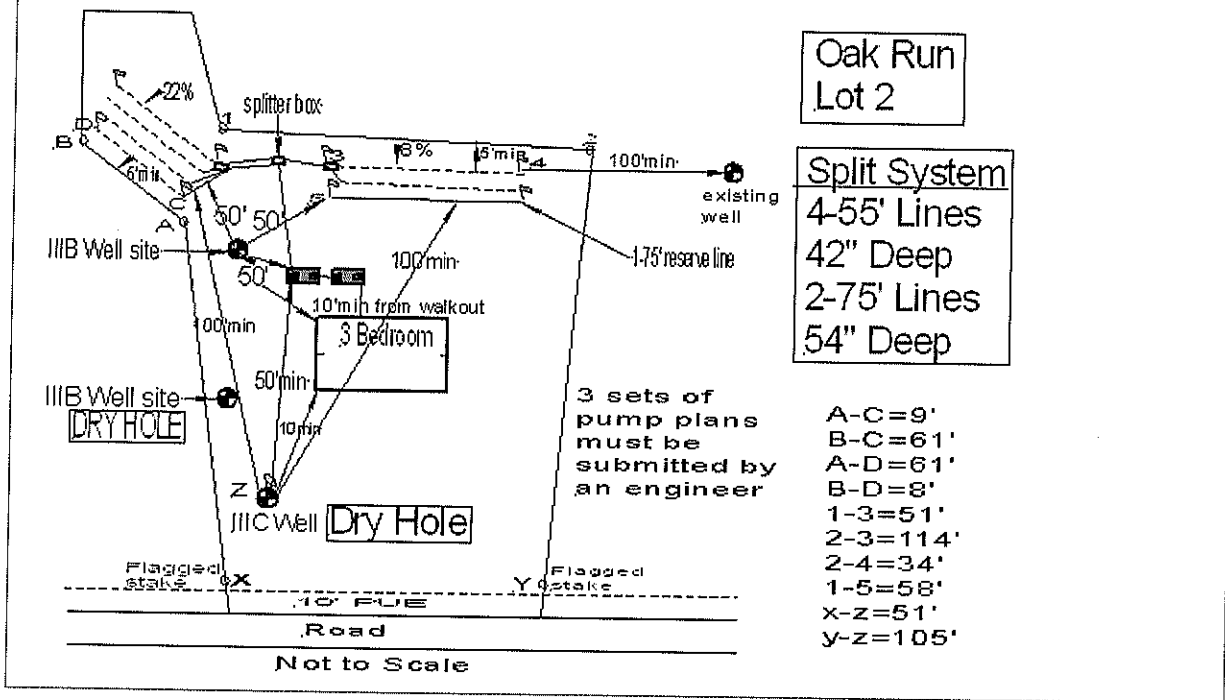
Owner Information

Leslie A. Wright
63 Summit Way, SW
Roanoke, Virginia 24014

Phone: (540) 989-8909

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Kermit R. Hughes; Site Evaluation By: C. Frank Davis

Kermit R. Hughes

August 16, 2004
Issue Date

February 16, 2006
Expiration Date

**THIS FORM MUST BE GIVEN TO WELL DRILLER
WITH THE ATTACHED PERMIT TO ASSURE PROPER
INFORMATION IS SUBMITTED TO HEALTH DEPARTMENT**

Commonwealth of Virginia
Uniform Water Well Completion Report

Owner: Leslie Wright
 Address: Mailing: 63 Summit Way SW Roanoke, Va
 Phone: 540 989-8909 or 540 797-1162 24014
 Location: Lot 2 Oak Run Subdivision

VDH PERMIT ID# 133-04-0431
 Tax Map #: 5.3-2

* Well Data *

General Information

Drilling Method APC
 Depth to Bedrock 67'
 Static Water Level _____
 Well Disinfected (Y or N) _____

Date Completed 5-9-05
 Yield 1 1/2 (GMP)
 Stabilized Water Level _____
 Disinfectant Used _____

Total Depth of Well 500'
 Length of Test 30 minutes
 Natural Flow (Rate) _____
 Amount Used _____

Casing

From 0 To 67'
 Size 6 1/4" Material PVC
 Weight/Schedule ASTM - FM 490

From _____ To _____
 Size _____ Material _____
 Weight/Schedule _____

From _____ To _____
 Size _____ Material _____
 Weight/Schedule _____

Gravel Pack

From _____ To _____

From _____ To _____

From _____ To _____

Grout

From 0 To 67'
 Bore Hole Size 10"
 Type BEN SEAL
 Method POURED

From _____ To _____
 Bore Hole Size _____
 Type _____
 Method _____

From _____ To _____
 Bore Hole Size _____
 Type _____
 Method _____

Water Zones or Screened Intervals

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

From _____ To _____
 Mesh Size _____ Diam _____
 From _____ To _____
 Mesh Size _____ Diam _____

* Use Data *

Private Well: Domestic Agricultural _____ Industrial _____ Monitoring _____
 Public Well: Community _____ Non-community _____

* Abandonment Information *

Bored or Dug Wells

Casing Removed, Y or N? _____
 If Y, Depth to which casing was removed: _____
 Depth and Type of Fill: _____
 Source of Fill _____
 Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells

Casing removed, Y or N? _____
 Depth to which casing was removed: _____
 Applicable, depth(s), and type of gravel/sand fill: _____
 Source of gravel or sand: _____
 Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

* Drillers Log *

Depth Description of Formation or Sediment Remarks

(Use Additional Sheets If necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Name Gordon Hodges & Son Well Drilling
Address 111 Sunset Drive
Rocky Mount Va. 24151
Phone 483-4226
Drillers Signature Ronald D. Hodges
Date 3-9-03 Representing _____
Virginia Contractors License Number 2705-006806



ENVIRONMENTAL OPTIONS, INC.

P.O. Box 879
Rocky Mount, VA 24151
(540) 483-3920 (TEL)
(540) 483-3855 (FAX)

LESLIE WRIGHT
63 SUMMIT WAY SW
ROANOKE VA 24014

RE: BACTERIOLOGICAL ANALYSIS OF WATER
ID# 133-04-0431
76 PATSEL COURT
HARDY VA 24101

COMMISSION NO: 7924-1

REPORT DATE: JANUARY 9, 2007

METHOD REFERENCE: STANDARD METHODS FOR THE EXAMINATION OF
WATER AND WASTEWATER: 18TH ED.


SAMPLE ID: 35561
FIELD ID: WELL 01/08/2007

<u>ANALYSIS</u>	<u>RESULT</u>	<u>METHOD</u>
TOTAL COLIFORM	NEGATIVE*	9223 B
E. COLI	NEGATIVE*	9223 B

*PASSES STATE REQUIREMENTS

STATE CERTIFICATE NO. 00122

IF ENVIRONMENTAL OPTIONS ANALYTICAL SERVICES MAY BE OF ANY
FURTHER ASSISTANCE, PLEASE DO NOT HESITATE TO CONTACT ME.


PAM WESTGATE
PRESIDENT

January 10, 2007

Good Morning—

Attached is a Water Analysis conducted by Environmental Options on my property.

It is a new construction located at 76 Patsel Court, Hardy, Va 24101

The well permit number is 133-04-0431

The well completion report should be on file and Rodney Hughes contacted me yesterday and stated he would be coming by the property sometime this week for the well inspection.

Should you have any additional questions or require any further information, please let me know. We are hoping to call in for final inspection of the property next week and want to make sure all is cared for in a timely manner.

Thank you so much,

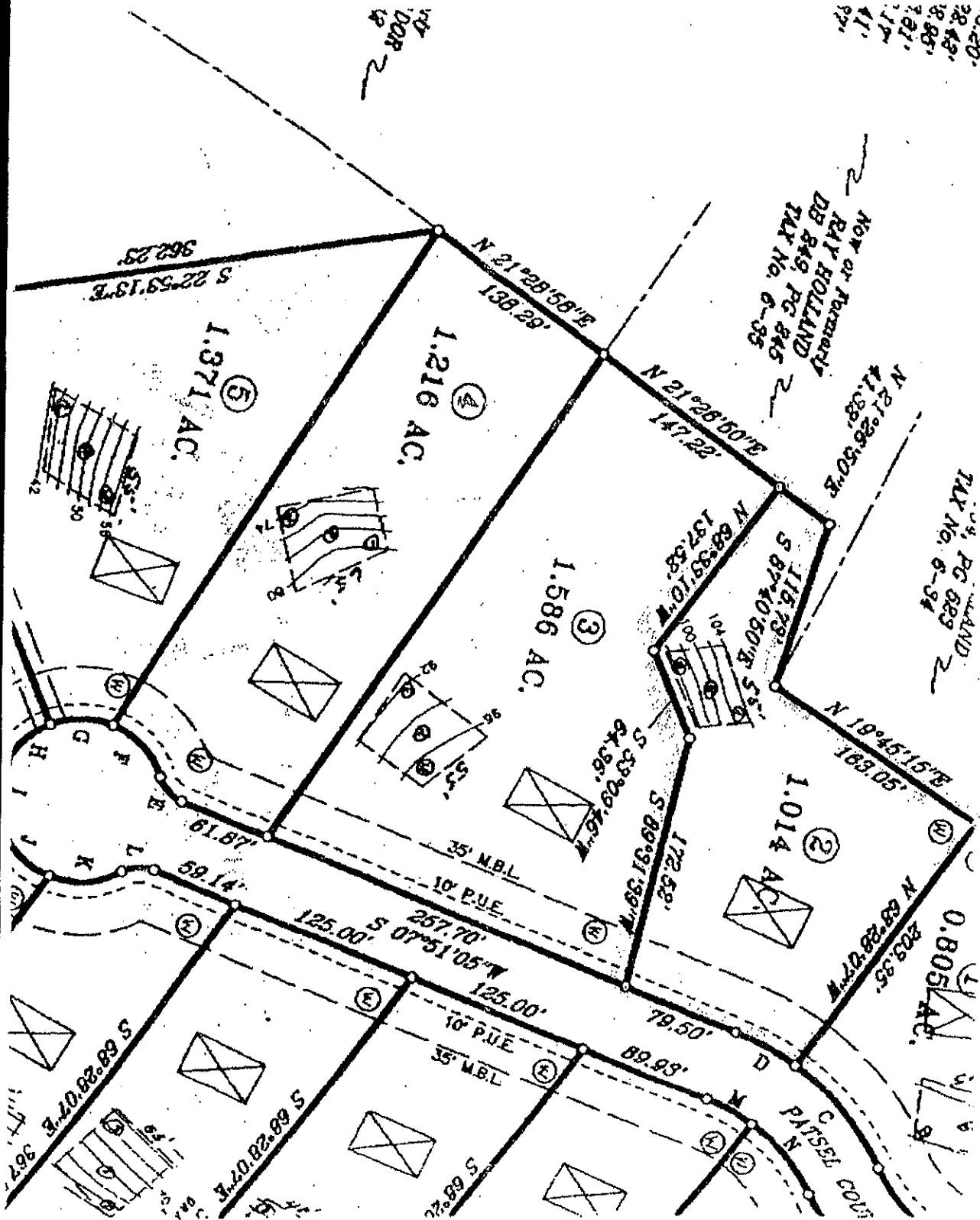
Leslie Wright
540 797 1662
540 265-8938
540 989 8909

NOV-14-03 01:51 PM FRANK DEWIS

68.20'
38.43'
18.85'
7.81'
11'
41'
87'

Now or Recently
DB 849, PG 845
TAX No. 6-35

LAND
TAX No. 6-94



David A. Dewis 4/30/04
 SIGNED DATE

ALL WELLS, SEPTIC TANKS AND DRAINFIELDS
 WITHIN 200 FEET OF MY PROPOSED/EXISTING
 BUILDINGS ARE SHOWN ON THIS DIAGRAM.

Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133 03 1200

FRANKLIN Co Health Department

Name of Company/Corporation/Individual: JW STANLEY

Address: 300 DYERLY KNOB RD. ~~ADDAWAY VA~~ ROLEY MT. VA 24151
Telephone: 404-0408

Owner's Name LESLIE WAIGHT

Owner's Address 03 SUMMIT WAY ROANOKE, VA 24014

Location of Installation: Lot 2 Block _____

Section: _____ Subdivision: OAK HUN

Other: _____

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 12/22/05 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

12/15/05
Date

J.W. Stanley
Signature and Title

Frank Davis
 Davis Soils Consulting
 290 Lakewood Court
 Rocky Mount, VA 24151

Office (540) 483-4914
 Fax (540) 483-1881

Sewage Disposal System Inspection Results

Health Dept. I.D.# 133 09 1200

Owners Name: LESLIE WAIGHT

Address: 63 SUMMIT WAY ROANOKE, VA 24014

Location: Subdivision: OAK RUN Sect./Blk. _____ Lot # 2

Other: _____

Water Supply Location:
 Satisfactory: Yes No _____

Comments: EXISTING III B

Building Sewer:
 Satisfactory: Yes No _____

Comments: 3" GULCH 40'

Pre-Treatment Unit:
 Satisfactory: Yes No _____

Comments: _____

Conveyance Method:
 Satisfactory: Yes No _____

Comments: _____

Distribution Box:
 Satisfactory: Yes No _____

Comments: _____

Header Lines:
 Satisfactory: Yes No _____

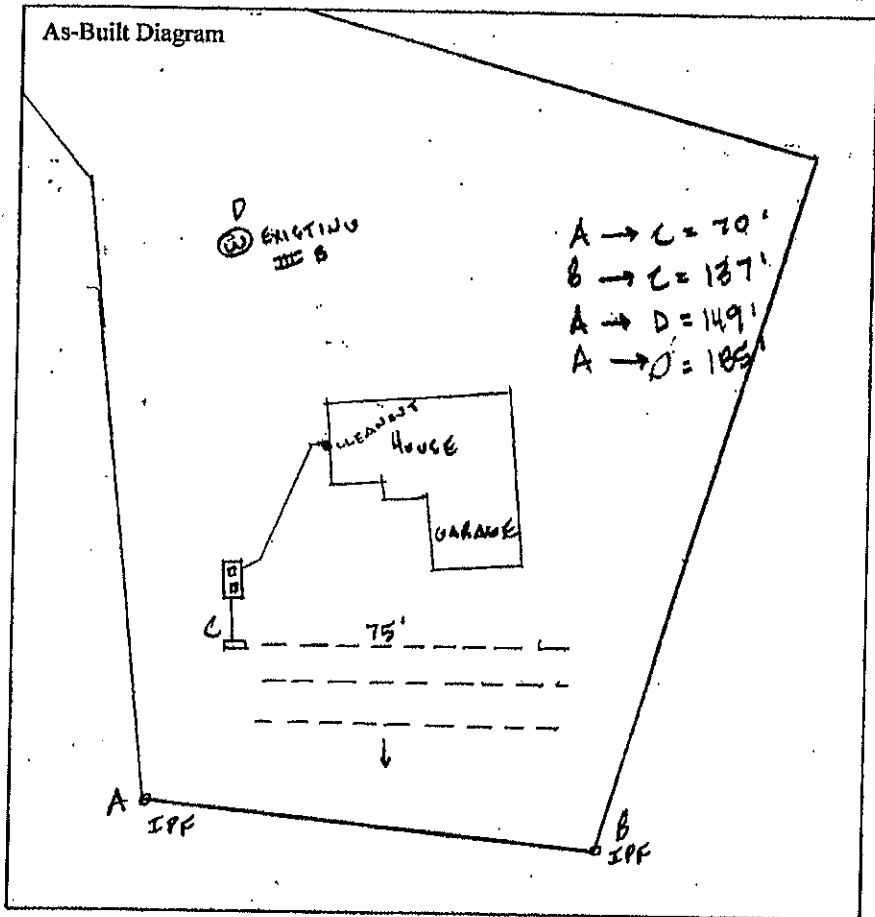
Comments: _____

Percolation Lines:
 Satisfactory: Yes No _____

Comments: INFILTRATOR QUICK 4

Absorption Trenches:
 Satisfactory: Yes No _____

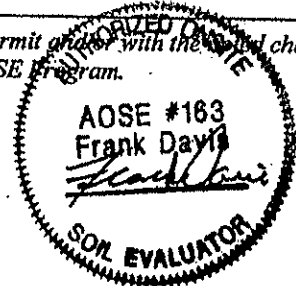
Comments: 18 CHAMBERS PER TRENCH
 3 LINES 75' EACH



I hereby certify that the above noted Sewage Disposal System was installed according to the permit and with the proposed changes substantially complies with the Virginia Sewage Handling & Disposal Regulations and the AOSE Program.

Date: 12/15/04

Approved By: Frank Davis
 Frank Davis AOSE #163





VIRGINIA WARRANTY, NOTICE OF SUBSTITUTION AND WAIVER OF LIABILITY

To be used when VDH has issued a permit for a gravel-type drainfield system and the Owner elects to install a Substituted System.

County/City of: Franklin Sewage Disposal System Construction Permit ID # 133051260
Tax Map # 5-3 or property description:
Owner: Leslie Wright Date: 12-14-06

LIMITED FIVE YEAR WARRANTY

- (a) Infiltrator Systems Inc. (the "Company") warrants that the Infiltrator chambers, end plates and turn units manufactured by the Company (collectively, the "Units"), when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP 116, Use of Gravelless Systems at Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the Infiltrator Units must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specifications.
(b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of a breach of warranty due to a failure of the trench, the Company will provide and install Infiltrator Units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- (c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- (d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

This is to notify the Virginia Department of Health ("VDH") that an Infiltrator Chamber ("Substituted System") will be substituted for the gravel-type drainfield system specified on the above-referenced sewage disposal system construction permit.

I understand that the Substituted System is not the system designed by the Franklin County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system prescribed by the County/City Health Department in the above-referenced permit.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION- Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under § 32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to § 32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase."

Commonwealth of Virginia

Application for : Sewage System Water Supply

Owner: Lolie Wright Phone: 540-427-4295
 Mailing address: 63 Summit Way S.W. Roanoke, VA 24014 Phone: _____
 Agent: Frank Davis Fax: _____
 Mailing address: 290 Lakewood Ct. Rocky Mount, VA 24151 Phone: 483-4914
 Fax: 483-1881
 Email: _____

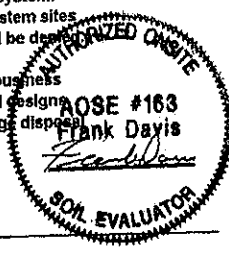
Site address: _____
 Directions to property: _____
 Subdivision: Oak Run Lot 2 Block _____ Sec _____
 Dimension/Acreage of Property: _____ Other Property Identification: _____

<u>Sewage System</u>	
Type of Approval: Applicants for new construction are advised to apply for a certification letter to determine if land is suitable for a sewage system and to apply for a construction permit (valid 18 months) <u>only when ready to build.</u>	
For New Construction:	<input checked="" type="checkbox"/> Construction Permit <input type="checkbox"/> Certification letter
For Existing Construction:	<input type="checkbox"/> Repair <input type="checkbox"/> Modification <input type="checkbox"/> Expansion <input type="checkbox"/> Replacement
Proposed Use:	<input checked="" type="checkbox"/> Single Family Home (Number of Bedrooms) <u>3</u> <input type="checkbox"/> Multi-Family Dwelling (Total Number of Bedrooms) _____
<input type="checkbox"/> Other (describe) _____	
Will there be a basement?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, will there be fixtures in Basement? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are any conditions proposed on this construction permit?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please check or describe all proposed conditions that apply:
<input type="checkbox"/> Reduced water flow <input type="checkbox"/> Limited occupancy <input type="checkbox"/> Intermittent of seasonal use	
<input type="checkbox"/> Temporary use not to exceed 1 year <input type="checkbox"/> Other, describe: _____	
<u>Water Supply</u> <i>class III Type B</i>	
Will the water supply be	<input type="checkbox"/> Public or <input checked="" type="checkbox"/> Private Is the water supply <input checked="" type="checkbox"/> Existing or <input type="checkbox"/> Proposed
If proposed, is this a replacement?	<input type="checkbox"/> Yes <input type="checkbox"/> No Will the old well be abandoned? <input type="checkbox"/> Yes <input type="checkbox"/> No
Have any buildings in 100 feet of the proposed well been termite treated?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Or will there be any termite treatment in the future:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<u>All Applicants</u>	
Is this an AOSE/PE application?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, is the AOSE package attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

In order for VDH to process your application you must attach a site sketch and plat of the property. The site sketch should show your property lines, actual and/or proposed buildings and the desired location of your well and/or sewage system. When the site evaluation is conducted the property lines, building location and the proposed well and sewage system sites must be clearly marked and the property sufficiently visible to see the topography, otherwise this application will be denied.

I give permission to the Virginia Department of Health (VDH) to enter onto the property described during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs certified by Authorized Onsite Soil Evaluator (AOSE) or a Professional Engineer (PE) as necessary until the sewage disposal system has been constructed and approved.

Signature of Owner/Agent: Frank Davis Date: 10/21/06



Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 10/21/2005 Submitted to Franklin Co. Health Department
 Applicant Leslie Wright Telephone No. 540-427-4295
 Address 63 Summit Way S.W. Roanoke, VA 24014
 Owner Same Address Same
 Location _____
 Tax Map 5-3 Subdivision Oak Meadows
 Block/Section _____ Lot 2

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope

2. Slope 2 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None _____

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

6. Free water present No Yes _____ range in inches

8. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch

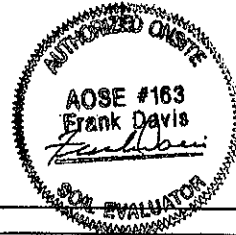
7. Permeability test performed Yes No
 If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 54" depth at site designated on permit.

Site Disapproved:

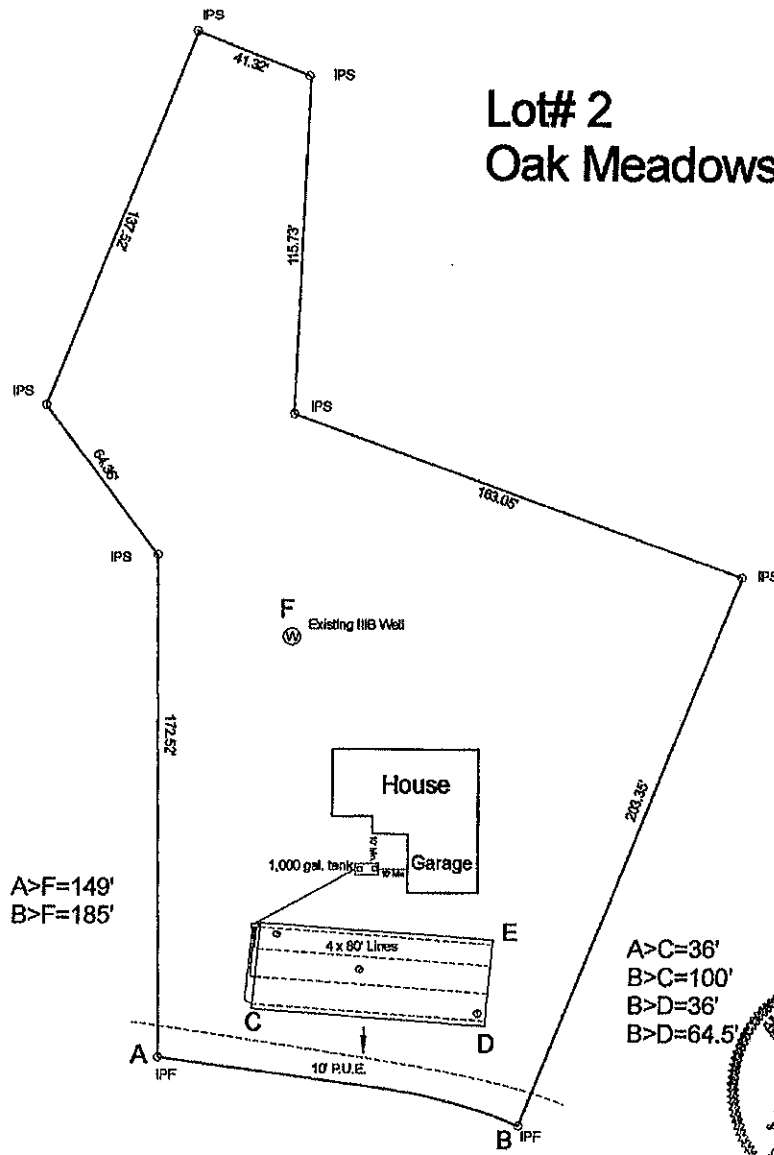
Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 6 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____



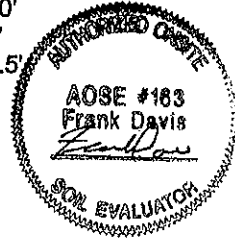
(attach additional pages if necessary)

Lot# 2 Oak Meadows



A>F=149'
B>F=185'

A>C=36'
B>C=100'
B>D=36'
B>D=64.5'

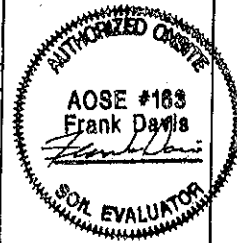


1"=50'

Appendix 5

Sewage Disposal System Construction Specifications

General Information	
New <input checked="" type="checkbox"/>	Repair <input type="checkbox"/> Expanded <input type="checkbox"/>
Owner <u>Leslie Wright</u>	Phone <u>640-427-4296</u>
Address <u>63 Summit Way S.W.</u> <u>Roanoke, VA 24014</u>	
For a Type <u>1</u>	
Subdivision <u>Oak Meadow</u>	Section _____ Block _____ Lot <u>2</u>
Actual or estimated water use <u>450 gpd</u>	
DESIGN	NOTES
Water supply, existing: (describe) <u>Class III type B well</u>	Contractor is to call AOSE Frank Davis @ 483-4914 a minimum of three days prior to final inspection
To be installed:	
Building sewer: <u>4"</u> I.D. PVC 40, or equivalent.	
Slope <u>1.25"</u> per 10' (minimum). <input type="checkbox"/> Other	
Septic tank: Capacity <u>1,000</u> gals. (minimum) <input type="checkbox"/> Other	
Inlet-outlet structure: <u>PVC 40, 4" tees or equivalent.</u> <input type="checkbox"/> Other	
Pump and pump station: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> describe and show design	
Gravity mains: <u>3"</u> or larger I.D., minimum <u>6"</u> fall per 100', 1600 lb. Crush strength or equivalent. <input type="checkbox"/> Other	
Distribution box: Precast concrete with <u>8</u> ports. <input type="checkbox"/> Other	
Header lines: Material: <u>4"</u> I.D., 1600 lb. Crush strength plastic or equivalent from distribution box to 2' into adsorption trench. Slope <u>2"</u> minimum. <input type="checkbox"/> Other	
Percolation lines: Gravity <u>4"</u> plastic 1000 lb. Per foot bearing load or equivalent, slope <u>2"-4"</u> (min.max.) per 100' <input type="checkbox"/> Other	
Absorption trenches:	
Square ft. required <u>960</u> : depth from ground surface to bottom of trench <u>54"</u> : trench width <u>3'</u>	
Depth of aggregate <u>13"</u> : Trench length <u>80'</u> : Number of trenches <u>4</u>	



Appendix 6
Abbreviated Design Form

Lot# 2

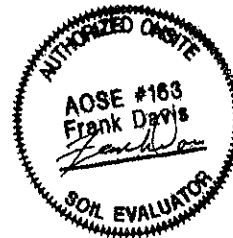
For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 320
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 80' Length of available area 80'
- E. Width of trench 3'
- F. Number of trenches 4
- G. Center-to-center spacing 9'
- H. Width required 30' Width of available area 30'
G(F-1) + E
- I. Total square footage required (line B times line C) 960
- J. Square footage in design (D*E*F) 960
- K. Is a reserve area required? yes No



Appendix 7

Certification Statement

County: Franklin Date: 10/21/2005

Property Identification: Tax Map #- 5-3

Submitted by: Frank Davis

This is to certify according to section 32.1-163.5 of the *Code of Virginia* that work submitted for the referred property is in accordance to and complies with the *Sewage Handling and Disposal Regulations* of the Virginia Department of Health. I recommend a Permit be

Approved

AOSE *Frank Davis* Date 10/21/2005



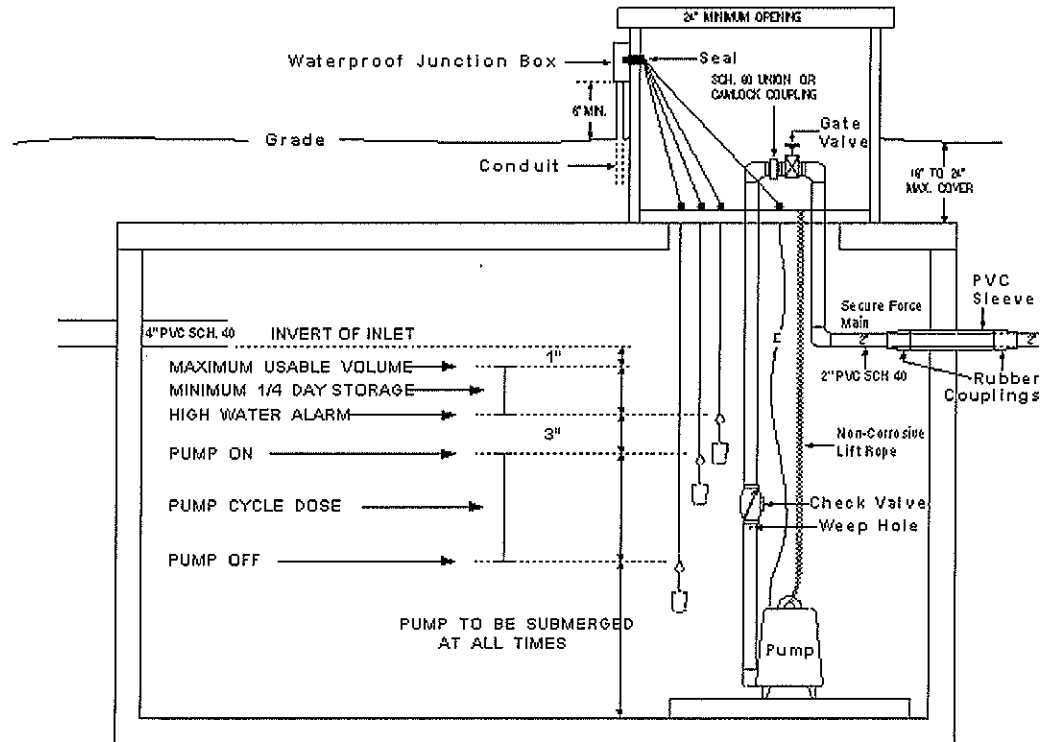
85 Patsel Court

Septic Tank - Soil Absorption System Construction Permit
Health Department ID Number: 133 05 0719

Owner / Agent Information	
Owner: Affordable Home Improvements 3925 Apricot Tr Roanoke, Virginia 24012 Owner Phone: (540) 977-4685	Agent: Edward Lindsley
Location Information	
Subdivision: Oak Run , Lot 12 Property Address: Patsel Court Locality: Franklin Directions: 122, L116, R-Coopers Cove, R-into Oak Run on Patsel Ct, 3rd lot on L	
General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum
Sewer Line	Distribution Box Information
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	No. of Boxes: 1 No. of Outlets: 6
Conveyance Line / Force Main Information	Header Line Information
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 4" Minimum Slope: 6" per 100' (only for non-pump)	ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
Septic Tank - Inlet Outlet Structure	Percolation Lines and Absorption Area
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 12' Installation Depth: 48" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 5 Laterals to be 65' long, x 3' wide Install 975 Square Feet Total 0% Reserve Area Required for Future Repairs

Please Note: All excavations must comply with OSHA safety regulations.
Divert roof drains and surface water from drainfield area.
Drainfield corners must be re-established by a surveyor prior to system installation.
Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements.
Driveways and parking areas shall not be constructed over the distribution box unless adequate structural protection is provided and access provisions are made.
Driveways and parking areas shall not be constructed over the drainfield unless the top of the gravel is deeper than 30 inches and the driveway is paved with Portland cement or bituminous concrete.
Maintain 100' minimum from subsurface sewage disposal system to all IIC wells.
Maintain 50' minimum from septic tank to all wells.
Maintain 50' minimum from subsurface sewage disposal system to IIB wells.
Remove all maple trees and other hydrophyllic (water loving) plants from within 10' of drainfield area.
See the approved subdivision plat for site sketch showing the system location.
The flood level of all plumbing fixtures must be higher than finished grade over drainfield or a pump will be required.
This permit is based on a site evaluation and systems design certified by AOSE #163, Frank Davis.
This permit is null and void if the house location is changed and interferes with the approved sewage disposal system area.
Water Supply = proposed IIB well.

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



Construction Drawing

HD ID #: 133 05 0719

Owner InformationAffordable Home Improvements
3925 Apricot Tr
Roanoke, Virginia 24012

Phone: (540) 977-4685

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.

Drainfield corners must be re-established by a surveyor prior to system installation.**See the approved subdivision plat for site sketch showing the system location.**

This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Davis, C. Frank; Site Evaluation By: Davis, C. Frank

Robert K. SneadAugust 3, 2005
Issue DateFebruary 3, 2007
Expiration Date

**Commonwealth of Virginia
Uniform Water Well Completion Report**

Owner- Affordable Home Improvements
Address-
Phone-
Location- Oak Run Subdivision - Lot 12 Patsel Court

Tax Map ID-
VDH Permit- 133-05-0719
VWCB ID-
County- Franklin

Well Data

General Information

Drilling Method-	Air Rotary	Date Completed-	12-11-06	Total Depth of Well-	1200'
Depth to Bedrock-	25'	Yield-	1/2 (GPM)	Length of Test-	
Static Water Level	146'	Stabilized Water Level-		Natural Flow (Rate)-	
Well Disinfected?-	Yes	Disinfectant Used-	Chlorine Tabs	Amount Used-	2#

Casing

From 0'	To 83'	From	To	From	To
Size- 6-1/8"	Material- PVC	Size-	Material-	Size- Material-	
Weight/Schedule-	SDR 21	Weight/Schedule-		Weight/Schedule-	

Gravel Pack

From	To	From	To	From	To
------	----	------	----	------	----

Grout

From 0'	To 82'	From	To	From	To
Bore Hole Size-	10"	Bore Hole Size-		Bore Hole Size-	
Type-	Baroid Benseal	Type-		Type-	
Method-	Pumped	Method-		Method-	

Water Zones or Screened Intervals

From 1000'	To 1001'	From	To	From	To
Mesh Size-	Diameter-	Mesh Size-	Diameter-	Mesh Size-	Diameter-
From	To	From	To	From	To
Mesh Size-	Diameter-	Mesh Size-	Diameter-	Mesh Size-	Diameter-

Use Data

Private Well:	Domestic	X	Agricultural	Industrial	Monitoring
Public Well:	Community		Non Community		



3404 Aerial Way Drive • Roanoke, VA 24018
Phone (540) 343-3618 • Fax (540) 342-2054

Roger D. Noell
262 Farmer's Rd.

Environmental Services Division

Certificate of Analysis

Date Reported: April 5, 2007

Sample Code: 07-1158

Bactl Code 0612

Fincastle

VA 24090

Chain of Custody Information

Date Collected: April 4, 2007

Time Collected: 1100

Collected By: Client

Sample Notes: Performed for: Mark Brogan

Date Received: April 4, 2007

Time Received: 1300

Sample Type: Well

Sample Location: 85 Palsel Court, Franklin County
Permit I.D. # 133-05-0719

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	04/04/2007	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes. Exceptions are noted in the analytical notes section of the certificate of analysis.

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of FRANKLIN
Sewage Disposal System Construction Permit ID # 133-05-0719 Tax Map # 0050301200
property description Oak Run Lot 12 -> 85 Pateel Court
Owner: Mark Bryan Date: 1-5-07 Hardy, VA 24101

LIMITED FIVE YEAR WARRANTY

- a) Ring Industrial Group, EZflow warrants that the EZflow™ EPS Aggregate System manufactured by Ring Industrial Group, EZflow, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP 116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.
b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that a EZflow™ EPS Aggregate System - Model EZ, _____ ("Substituted System") Will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the _____ County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims; complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION- Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

85 Pateel Court
Address of Installation (Street)
Hardy, VA 24101
City
Oak Run Lot 12
(Subdivision Name) (Lot #)

Mark Bryan
Name (print) and Address of Property Owner
1351 Tran Drive Goodview, VA 24095
Mark Bryan
Property Owner Signature Date 1/5/07

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP 116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

Pat Seel
Business Name of Installer Name (print)
4400 Old Columbia Rd. Selma VA 24153
Address of Installer (Street/P.O. Box) (City) (State) (Zip)
(Phone) Signature Date

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1611 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map S-3-1111 Subdivision Oak Run
 Block/Section _____ Lot 12

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope
2. Slope 31 %
3. Depth to rock or impervious strata: Max. _____ Min. _____ Note X
4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches
5. Free water present No Yes _____ range in inches
6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch
7. Permeability test performed Yes No
- If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 48" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
 2 Insufficient depth of suitable soil over hard rock
 3 Insufficient depth of suitable soil to seasonal water table.
 4 Rates of absorption too slow.
 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
 6 Proposed system too close to well.
 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #12

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-30"	Brownish Red Sandy Clay Loam	II
	C1	30"-48"	Brownish Red Sandy Loam	II
	C2	48"-72"	Brownish Red slightly Dense Sandy Loam w/Many Fine Weathered Rock Fragments	II
2	A	0"-4"	Brown Loam	II
	Bt1	4"-12"	Dark Red Clay	IV
	Bt2	12"-30"	Red Clay Loam	III
	C	320"-72"	Reddish Brown slightly Dense Sandy Loam w/Many Fine Weathered Rock Fragments	II
3	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-36"	Red Clay Loam	III
	C1	36"-48"	Brownish Red Mic. Loam	II
	C2	48"-66"	Brownish Red Slightly Dense Sandy Loam w/Many Fine Weathered Rock Fragments	II
Remarks:				

Appendix 6
Abbreviated Design Form

Lot # 12

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 325)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 65 Length of available area 65
- E. Width of trench 3'
- F. Number of trenches 5
- G. Center-to-center spacing 12
- H. Width required 51 Width of available area 51
G(F-1) + E
- I. Total square footage required (line B times line C) 975
- J. Square footage in design (D*E*F) 975
- K. Is a reserve area required? yes No

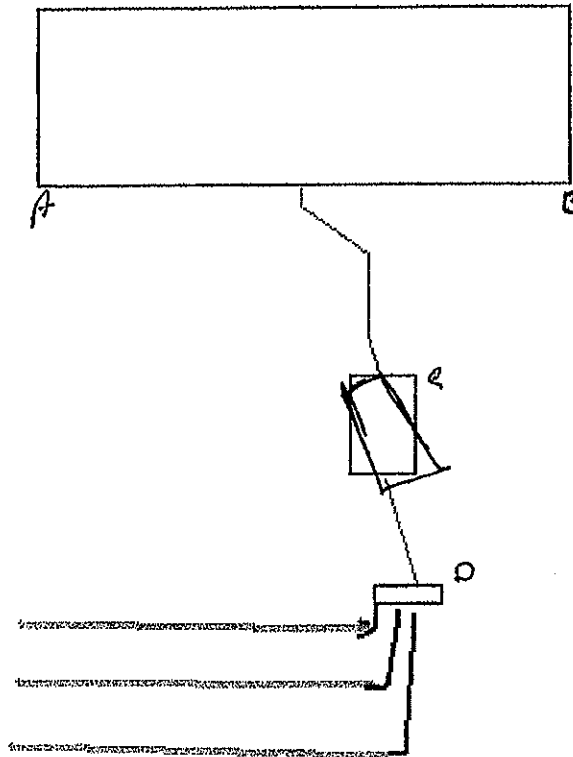
133-05-0719

Oak Run Lot 12

Franklin Co.

E/J/w 3-65' line 48' ^{Depth}

CONTRACTOR
AS BUILT
DRAWING



$$A-C = 67.6'$$

$$A-O = 83'$$

$$B-C = 50'$$

$$B-O = 76.6'$$

$$C-D = 26.6'$$

95 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

James N. Martin
111 Deer Trace Ln
Salem, Virginia 24153
Phone: (540) 774-7255

Health Dept. ID: 133 05 0507

Tax Map: 5.3-11

Locality: Franklin

Property Location

Property Address: 95 Patsell Ct
Hardy, Virginia 24101

Subdivision: Oak Run , Lot 11

Directions: 122, L-116, R-Coopers Cove Rd, R-into sub on Patsell Ct, to on L (marked)

=====

James N. Martin is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

November 8, 2005
Effective Date

Christopher A. Carter
EHS

Signed June 13, 2006

Completion Statement

12:30

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133-05-0507

Franklin Co Health Department

Name of Company/Corporation/Individual: High Country Contractors

Address: 1611 Northfork Ave 3 Telephone: 342-8643

Owner's Name: James W. Martin

Owner's Address: _____

Location of Installation: Lot 11 Block _____

Section: _____ Subdivision: _____

Other: 122 - 116, R Corpus Cove R site Sub.

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) June 6, 2005 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

10/20/05

Date

[Signature]

Signature and Title

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of Franklin
Sewage Disposal System Construction Permit ID # 133050507 Tax Map #
property description: Oak Run, Lot 11
Owner: James Martin Date: 2-11-06

LIMITED FIVE YEAR WARRANTY

Ring Industrial Group, EZflow warrants that the EZflow™ EPS Aggregate System manufactured by Ring Industrial Group, EZflow, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health OMP #16, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.

System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGES DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that a EZflow™ EPS Aggregate System - Model EZ-13011 ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

AN OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their inventors, officers, directors, employees, representatives, and agents (hereafter referred to as the "COMMONWEALTH OF VIRGINIA"), from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION- Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §12.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to OMP #116 shall not constitute an act of negligence pursuant to §12.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Lot 11, Patsell Ct.
Address of Installation (Street)
Hardy, VA
Oak Run, Lot 11
(Subdivision Name) (Lot #)

James Martin
Name (print) and Address of Property Owner
Lot 11, Patsell Ct, Hardy, VA
James Martin
Property Owner Signature
Date

95 Patsell Court
Hardy, VA

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with OMP #16, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

High Country Contractors, Inc
Business Name of Installer
1411 Norfolk Avenue
Address of Installer (Street/P.O. Box)
(RPhone)

ROCKWELL VA 24013
Name (print)
Signature
Date

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1611 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map S-3-f-104 Subdivision Oak Run
 Block/Section _____ Lot 11

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope
2. Slope 23 %
3. Depth to rock or impervious strata: Max. _____ Min. _____ None
4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches
5. Free water present No Yes _____ range in inches
6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch
7. Permeability test performed Yes No
 If yes, note type of test performed and attach _____

Site Approved: Drainfield to be placed at 60" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #11

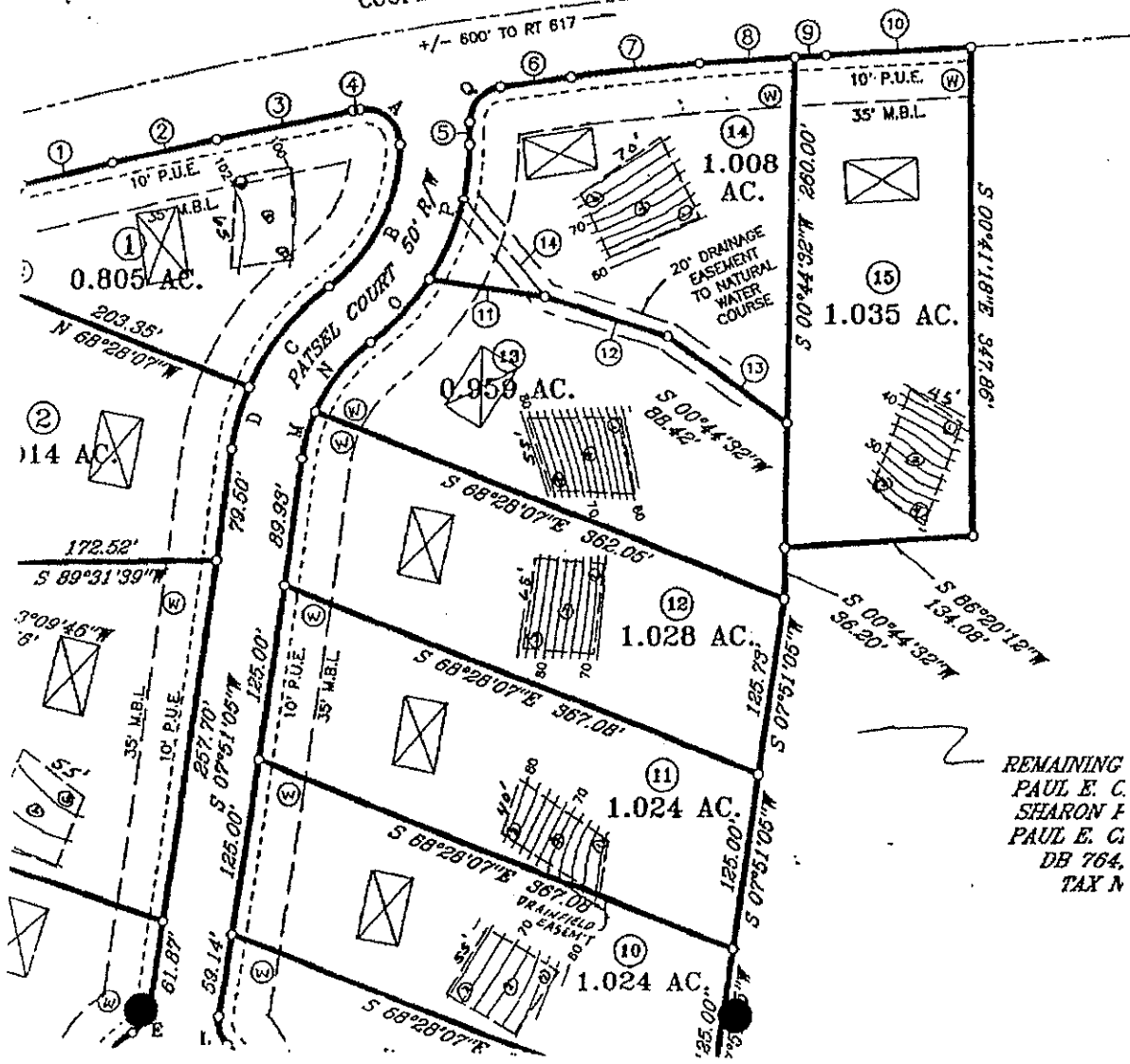
See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-30"	Brownish Red Sandy Clay Loam	II
	C1	30"-48"	Brownish Red Sandy Loam	II
	C2	48"-78"	Dark Brown Mic. Loam	II
2	A	0"-4"	Brown Loam	II
	Bt	4"-42"	Red Clay Loam	III
	C1	42"-60"	Brownish Red Mic. Loam	II
	C2	60"-78"	Brown Mic. Loam	II
3	A	0"-4"	Brown Loam	II
	Bt	4"-48"	Red Clay Loam	III
	C	48"-78"	Brownish Red Mic. Loam	II
Remarks:				

VA ROUTE 681 50' R/W
COOPERS COVE ROAD



REMAINING
PAUL E. C.
SHARON F.
PAUL E. C.
DB 764,
TAX N

Appendix 6
Abbreviated Design Form

Lot # 11

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 320)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 40 Length of available area 40
- E. Width of trench 3'
- F. Number of trenches 8
- G. Center-to-center spacing 11
- H. Width required 80 Width of available area 80
($G(F-1) + E$)
- I. Total square footage required (line B times line C) 960
- J. Square footage in design ($D \cdot E \cdot F$) 960
- K. Is a reserve area required? yes No

100 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Crawford and Crawford Farm, LLC
1611 Norfolk Ave
Roanoke, Virginia 24013
Phone: (540) 342-8643

Health Dept. ID: 133 05 0253

Tax Map: 5.3-3

Locality: Franklin

Property Location

Property Address: Pastel Ct
, Virginia

Subdivision: Oak Run , Lot 3

Directions: 122, L616,R-Coopers Cove Rd, R-Pastel Ct, 3rd lot on R

=====

Crawford and Crawford Farm, LLC is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

October 21, 2005
Effective Date

Rodney Hughes
EHS

Signed January 12, 2006

Septic Tank - Soil Absorption System Construction Permit

Health Department ID Number: 133 05 0253

Owner / Agent Information	
Owner: Crawford and Crawford Farm, LLC 1611 Norfolk Ave Roanoke, Virginia 24013 Owner Phone: (540) 342-8643	Agent: Carl Secrest 2100 Fairystone Park Rd Ferrum Virginia 24088 Agent Phone: (540) 342-8643

Location Information	
Subdivision: Oak Run , Lot 3 Property Address: Pastel Ct Locality: Franklin	Tax Map: 5.3-3
Directions: 122, L616, R-Coopers Cove Rd, R-Pastel Ct, 3rd lot on R	

General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum

Sewer Line	Distribution Box Information
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	No. of Boxes: 1 No. of Outlets: 12

Conveyance Line / Force Main Information	Header Line Information
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 4" Minimum Slope: 6" per 100' (only for non-pump)	ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'

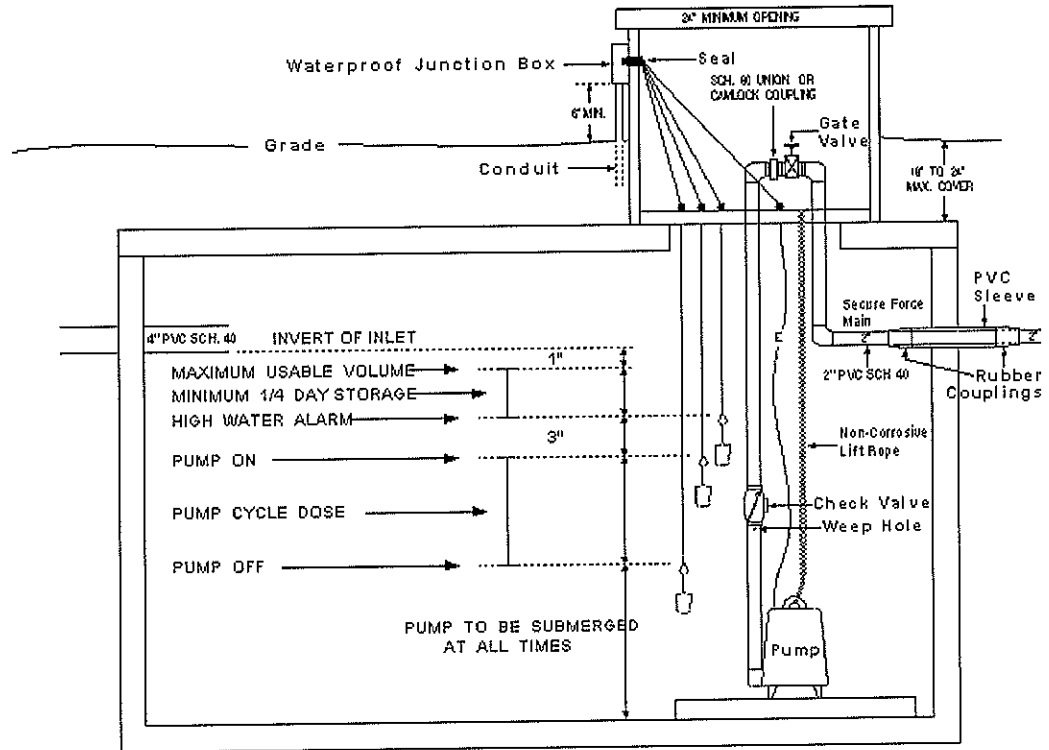
Septic Tank - Inlet Outlet Structure	Percolation Lines and Absorption Area
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 10' Installation Depth: 54" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 6 Laterals to be 55' long, x 3' wide Install 990 Square Feet Total Reserve Area Required for Future Repairs

Please Note: Divert roof drains and surface water from drainfield area.
 Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements.
 Maintain 50' minimum from septic tank to all wells.
 Maintain 50' minimum from subsurface sewage disposal system to IIB wells.
 See the Construction Drawing page for site sketch showing the system location.
 The flood level of all plumbing fixtures must be higher than finished grade over drainfield or a pump will be required.
 This permit is based on a site evaluation and systems design certified by AOSE #163, Frank Davis.
 This permit is null and void if the house location is changed and interferes with the approved sewage disposal system area.
 Water Supply = proposed IIB well.

Pump Specifications

Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons
	inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute

Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.
 Pump Must Provide Gallons per Minute at System Head.



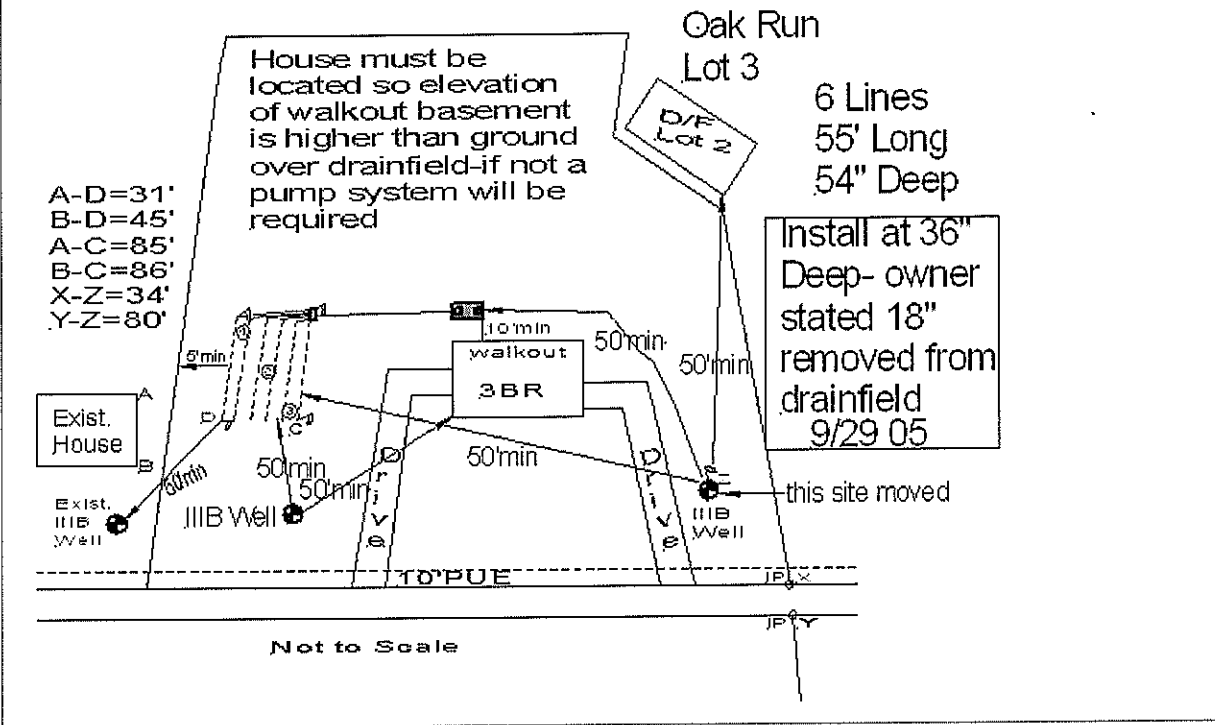
Owner Information

Crawford and Crawford Farm, LLC
 1611 Norfolk Ave
 Roanoke, Virginia 24013

Phone: (540) 342-8643

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Davis, C. Frank ; Site Evaluation By: Davis, C. Frank

Kermit R. Hughes

March 18, 2005
 Issue Date

September 18, 2006
 Expiration Date

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

SEP 13 2005

Owner Crawford & Crawford Farm LLC VHD Permit # 133-05-0253
Address: 116 Norfolk Avenue
Roanoke Virginia 24013 Tax Map # 5.3-3
Phone: _____
Location: _____ County: Franklin

**** WELL DATA ****

General Information
Drilling Method Air Date Completed 6-16-05 Total Depth of Well 500'
Depth to Bedrock 70' Yield 3 (GMP) Length of test 30 minutes
Static Water Level _____ Stabilized Water Level _____ Natural Flow (Rate) _____
Well Disinfected (Y or N) _____ Disinfectant Used _____ Amount Used _____

Casing
From 0 To 70" From _____ To _____ From _____ To _____
Size 6 1/4" Material PVC Size _____ Material _____ Size _____ Material _____
Weight/Schedule Astm-F480-00 Weight/Schedule _____ Weight/Schedule _____

Gravel Pack
From _____ To _____ From _____ To _____ From _____ To _____

Grout
From 0 To 70' From _____ To _____ From _____ To _____
Bore Hole Size 10" Bore Hole Size _____ Bore Hole Size _____
Type cement Type _____ Type _____
Method Pumped Method _____ Method _____

Water Zones or Screened Intervals
From _____ To _____ From _____ To _____ From _____ To _____
Mesh Size _____ Diam _____ Mesh Size _____ Diam _____ Mesh Size _____ Diam _____
From _____ To _____ From _____ To _____ From _____ To _____
Mesh Size _____ Diam _____ Mesh Size _____ Diam _____ Mesh Size _____ Diam _____

****USE DATA****

Private Well: Domestic Yes Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non-Community _____

****ABANDONMENT INFORMATION***

Bored or Dug Wells
Casing Removed, Y or N? _____ Wells other than Bored Wells
If Y, Depth to which casing was moved: _____ Casing removed, Y or N? _____
Depth and type of fill: _____ Depth to which casing was removed: _____
Source of Fill _____ Applicable, depth(s), and type of gravel/sand fill: _____
Bentonite Plugs: From _____ To _____ From _____ To _____ Source of gravel or sand: _____
Cement: From _____ to _____ From _____ to _____
Method of permanently marking location: _____

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further the well complies with all state and local regulations, ordinances and law.

NAME: Gordon Hodges & Son Well Drilling
ADDRESS: 111 Sunset Drive Rocky Mount Virginia 24151
PHONE: 540-483-4225
DRILLERS SIGNATURE Gordon Hodges
DATE: 6-16-05 REPRESENTING: Same as above
VIRGINIA CONTRACTORS LICENSE NUMBER: 2705-006806



3404 Aerial Way Drive • Roanoke, VA 24018
 Phone (540) 343-3618 • Fax (540) 342-2054

Environmental Services Division

Certificate of Analysis

High Country Contractors
 1611 Norfolk Ave., SE

Date Reported: January 9, 2006

Sample Code: 06-0070

Bacti Code 0040

Roanoke VA 24013

Chain of Custody Information

Date Collected: January 4, 2006
 Time Collected: 1230
 Collected By: Client
 Sample Notes: Building Permit # 42637

Date Received: January 4, 2006
 Time Received: 1320
 Sample Type: Well

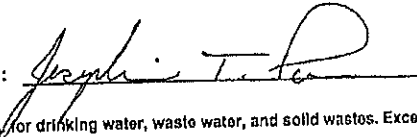
Sample Location: 100 Patsel Ct., Lot # 3, Hardy, Va.

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	01/04/06	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes. Exceptions are noted in the analytical notes section of the certificate of analysis.

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department

Applicant Paul Crawford Telephone No. 537-1307

Address 1611 Norfolk Avenue Roanoke, Va 24101

Owner Same Address _____

Location _____

Tax Map S-3-M Subdivision Oak Run

Block/Section _____ Lot 3

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
Describe side slope

2. Slope 11 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No

If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 54" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #3

See application sketch		See construction permit		X	See attached
Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group	
1	A	0"-4"	Brown Loam	II	
	Bt1	4"-30"	Dark Red Clay	IV	
	Bt2	30"-36"	Red Clay Loam	III	
	C1	36"-66"	Brownish Red Sandy Loam	II	
	C2	66"-72"	Brown Slightly Dense Sandy loam	II	
			w/Many fine weathered Rock Fragments		
2	A	0"-4"	Brown Loam	II	
	Bt1	4"-30"	Dark Red Clay	IV	
	Bt2	30"-42"	Red Clay Loam	III	
	C	42"-72"	Reddish Brown Sandy Loam	II	
3	A	0"-4"	Brown Loam	II	
	Bt1	4"-24"	Dark Red Clay	II	
	Bt2	24"-42"	Red Clay Loam	III	
	C1	42"-60"	Red Fine Sandy loam	II	
	C2	60"-72"	Brown Sandy Loam	II	
Remarks:					

Appendix 6

Abbreviated Design Form

Lot # 3

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

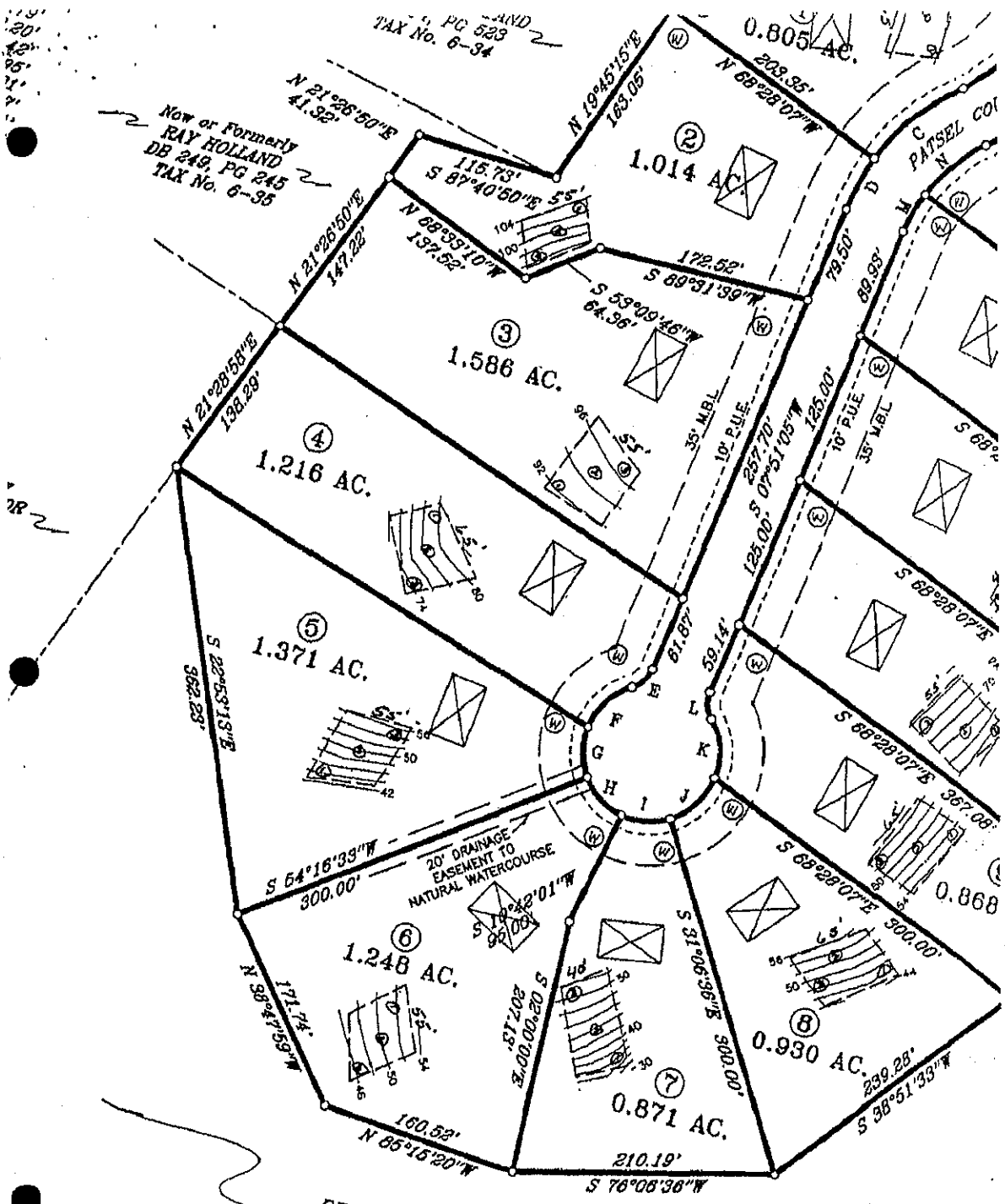
- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 330)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 55 Length of available area 55
- E. Width of trench 3'
- F. Number of trenches 6
- G. Center-to-center spacing 10
- H. Width required 53 Width of available area 53
G(F-1) + E
- I. Total square footage required (line B times line C) 990
- J. Square footage in design (D*E*F) 990
- K. Is a reserve area required? yes No

PG 533
TAX No. 6-34

Now or Formerly
RAY HOLLAND
DB 249, PG 245
TAX No. 6-35



REMAINING PROPERTY OF
PAUL E. CRAWFORD, SR.
SHARON P. CRAWFORD
PAUL E. CRAWFORD
DB 76*

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

✓
SEP 13 2005

Owner Crawford & Crawford Farm LLC VHD Permit # 133-05-0259
Address: 116 Norfolk Avenue
Roanoke Virginia 24013 Tax Map # 5.3-3
Phone: _____
Location: _____ County: Franklin

**** WELL DATA ****

General Information
Drilling Method Air Date Completed 6-16-05 Total Depth of Well 500'
Depth to Bedrock 70' Yield 3 (GMP) Length of test 30 minutes
Static Water Level _____ Stabilized Water Level _____ Natural Flow (Rate) _____
Well Disinfected (Y or N) _____ Disinfectant Used _____ Amount Used _____

Casing
From 0 To 70' From _____ To _____ From _____ To _____
Size 6 1/4" Material PVC Size _____ Material _____ Size _____ Material _____
Weight/Schedule Astm-F480-00 Weight/Schedule _____ Weight/Schedule _____

Gravel Pack
From _____ To _____ From _____ To _____ From _____ To _____

Grout
From 0 To 70' From _____ To _____ From _____ To _____
Bore Hole Size 10" Bore Hole Size _____ Bore Hole Size _____
Type cement Type _____ Type _____
Method Pumped Method _____ Method _____

Water Zones or Screened Intervals
From _____ To _____ From _____ To _____ From _____ To _____
Mesh Size _____ Diam _____ Mesh Size _____ Diam _____ Mesh Size _____ Diam _____
From _____ To _____ From _____ To _____ From _____ To _____
Mesh Size _____ Diam _____ Mesh Size _____ Diam _____ Mesh Size _____ Diam _____

****USE DATA****

Private Well: Domestic Yes Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non-Community _____

****ABANDONMENT INFORMATION***

Bored or Dug Wells
Casing Removed, Y or N? _____ Wells other than Bored Wells
If Y, Depth to which casing was moved: _____ Casing removed, Y or N? _____
Depth and type of fill: _____ Depth to which casing was removed: _____
Source of Fill _____ Applicable, depth(s), and type of gravel/sand fill: _____
Bentonite Plugs: From _____ To _____ From _____ To _____ Source of gravel or sand: _____
Method of permanently marking location _____ Cement: From _____ to _____ From _____ to _____

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further the well complies with all state and local regulations, ordinances and law.

NAME: Gordon Hodges & Son Well Drilling
ADDRESS: 111 Sunset Drive Rocky Mount Virginia 24151
PHONE: 540-483-4225
DRILLERS SIGNATURE *Gordon Hodges*
DATE: 6-16-05 REPRESENTING: Same as above
VIRGINIA CONTRACTORS LICENSE NUMBER: 2705-006806

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of Franklin
Sewage Disposal System Construction Permit ID # 133-05-0253 Tax Map #
property description: Oak Run, Lot 3
Owner: Kevin Atkins Date: 12-9-05

LIMITED FIVE YEAR WARRANTY

- a) Ring Industrial Group, EZflow warrants that the EZflow™ EPS Aggregate System manufactured by Ring Industrial Group, EZflow, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP 116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.
b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that a EZflow™ EPS Aggregate System - Model EZ 12e3/h ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION- Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Lot 3, Patzel Ct.
Address of Installation (Street)
Hardy, Va.
(City)
Oak Run, Lot 3
(Subdivision Name) (Lot #)

Kevin Atkins
Name (print) and Address of Property Owner
Lot 3, Patzel Ct., Hardy, Va.
Kevin Atkins
Property Owner Signature
Date 12-19-05

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP 116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

High Country Contractors, Inc.
Business Name of Installer Name (print)
1611 Norfolk Ave. SE Roanoke Va. 24013
Address of Installer (Street/P.O. Box) (City) (State) (Zip)
Paul Carpenter
(Phone) Signature Date 12/31/05

105 Patsel Court

Septic Tank - Soil Absorption System Construction Permit

Health Department ID Number: 133 05 1149

Owner / Agent Information	
Owner: Affordable Home Improvements 3925 Apricot Tr Roanoke, Virginia 24012 Owner Phone: (540) 977-4685	Agent: Edward Lindsey

Location Information	
Subdivision: Oak Run , Lot 9 Property Address: Patsel Ct Locality: Franklin	Tax Map: 5.3-9
Directions: L122, L116, R-Coopers Cove Rd, R-Patsel Ct	

General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum

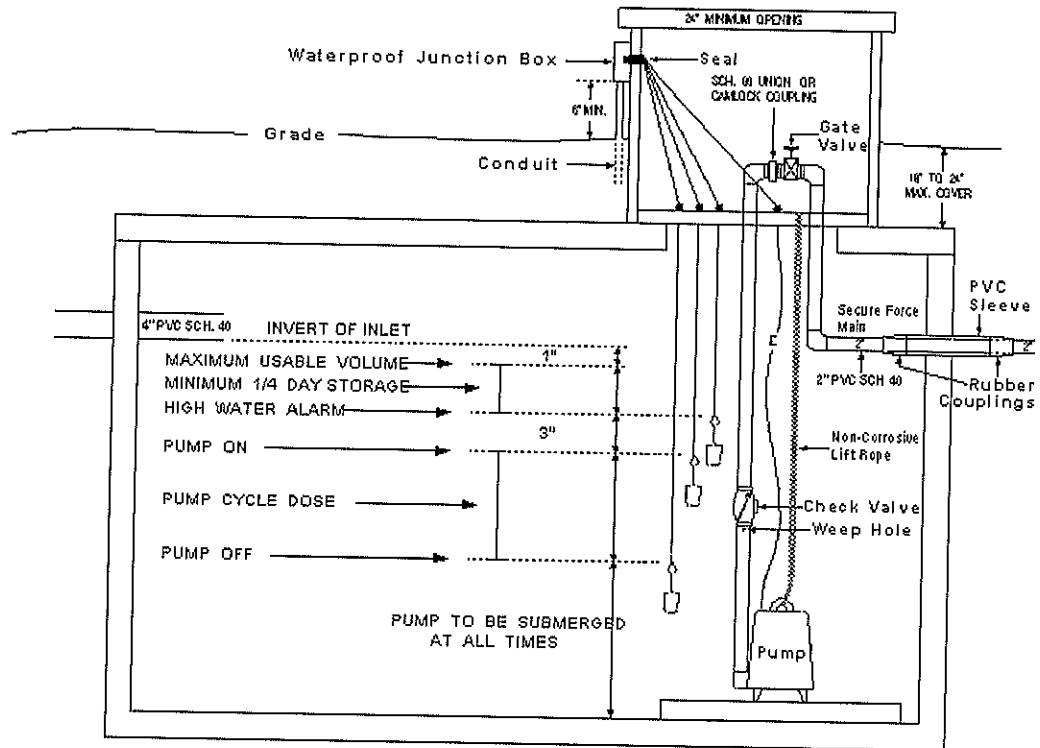
Sewer Line	Distribution Box Information
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	No. of Boxes: 1 No. of Outlets: 10

Conveyance Line / Force Main Information	Header Line Information
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 3" Minimum Slope: 6" per 100' (only for non-pump)	ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'

Septic Tank - Inlet Outlet Structure	Percolation Lines and Absorption Area
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 11' Installation Depth: 60" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 5 Laterals to be 65' long, x 3' wide Install 975 Square Feet Total 0% Reserve Area Required for Future Repairs

Please Note: Divert roof drains and surface water from drainfield area.
Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements.
Maintain 50' minimum from septic tank to all wells.
Maintain 50' minimum from subsurface sewage disposal system to IIIB wells.
Remove all maple trees and other hydrophylic (water loving) plants from within 10' of drainfield area.
See the Construction Drawing page for site sketch showing the system location.
Water Supply = proposed IIIB well.

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons
	inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



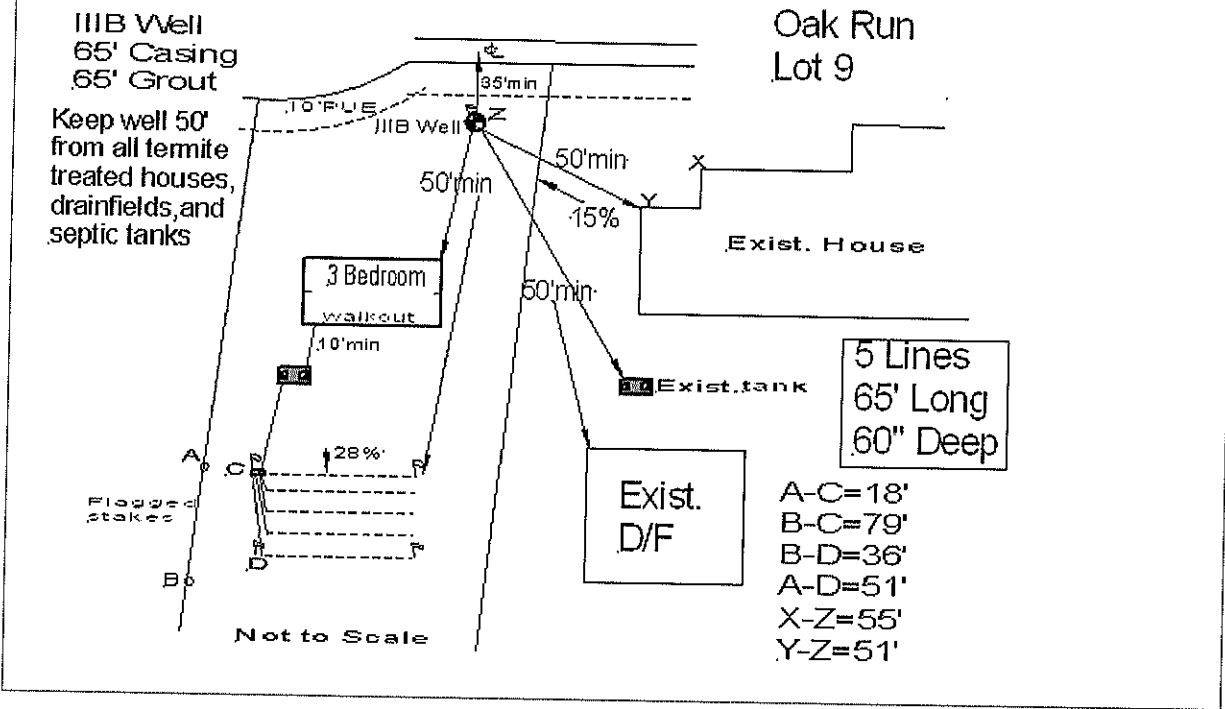
Owner Information

Affordable Home Improvements
3925 Apricot Tr
Roanoke, Virginia 24012

Phone: (540) 977-4685

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Rodney Hughes ; Site Evaluation By: Davis, C. Frank

Rodney Hughes

November 30, 2005
Issue Date

May 30, 2007
Expiration Date

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1611 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map 5-3-111 Subdivision Oak Run
 Block/Section _____ Lot 9

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope
2. Slope 28 %
3. Depth to rock or impervious strata: Max. _____ Min. _____ None
4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches
5. Free water present No Yes _____ range in inches
6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch
7. Permeability test performed Yes No

If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 60" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #9

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-48"	Red Clay Loam	III
	C	48"-78"	Red Mic. Loam	II
2	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-48"	Red Clay Loam	III
	C	48"-78"	Red Mic. Loam	II
3	A	0"-1"	Brown Loam	II
	Bt1	1"-18"	Dark Red Clay	IV
	Bt2	18"-48"	Brownish Red Clay Loam	III
	C1	48"-60"	Brownish Red Mic. Loam	II
	C2	60"-78"	Brown Mic. Loam	II
Remarks:				

179'
180'
181'
182'
183'
184'

LAND
PG 523
TAX No. 6-34

New or Formerly
RAY HOLLAND
DB 249, PG 245
TAX No. 6-35

0.805 AC.
203.35'
N 88°28'07"W

1.014 AC.
116.79'
S 87°40'50"E 55'
N 68°35'10"W 137.52'

1.586 AC.
N 21°28'50"E 147.22'
S 53°09'48"W 64.36'
S 89°31'39"W 172.52'

1.216 AC.
N 21°28'50"E 138.29'

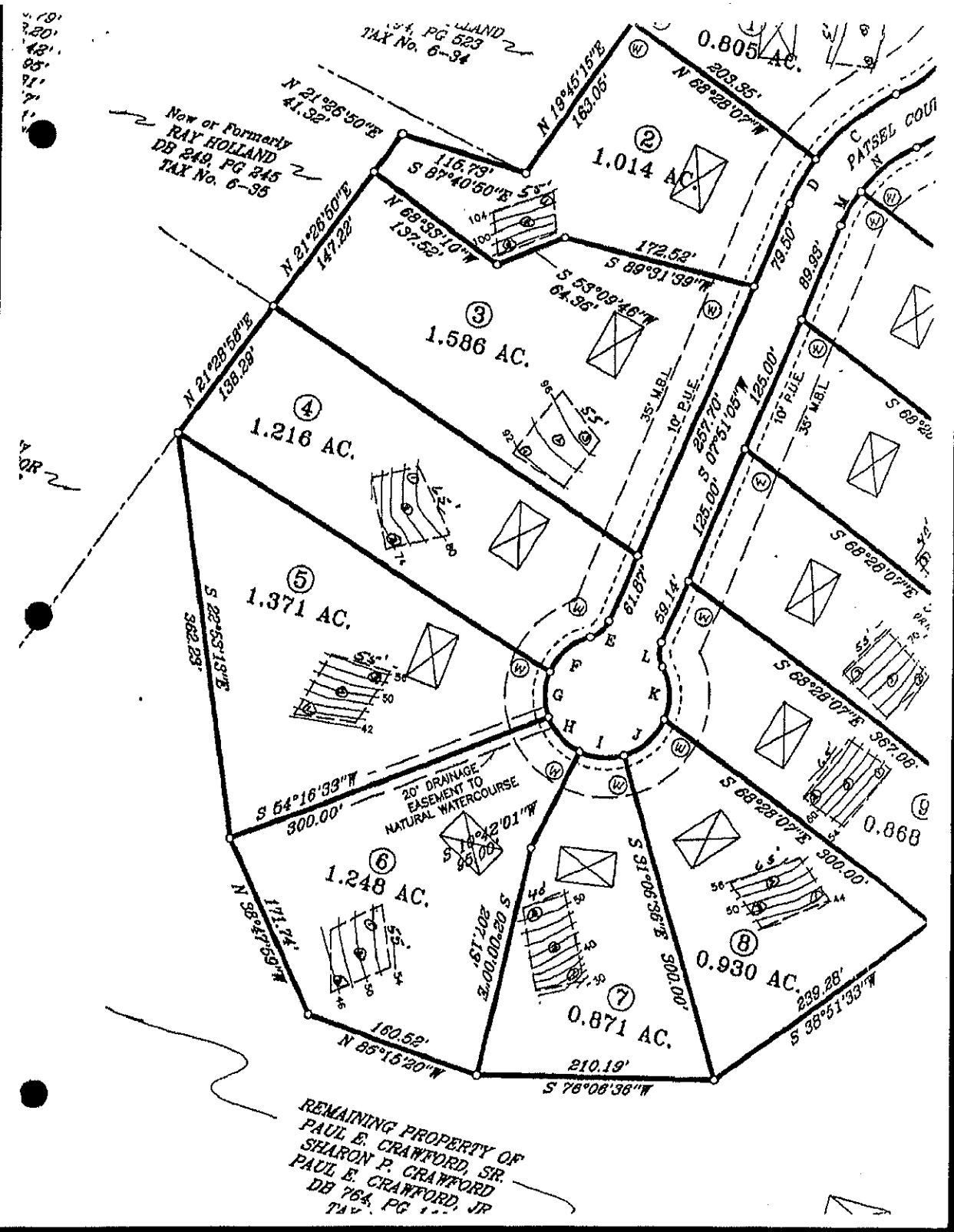
1.371 AC.
S 22°53'13"E 382.23'

1.248 AC.
S 54°16'33"W 300.00'
N 28°34'33"W 171.74'

0.930 AC.
S 68°28'07"E 300.00'
S 38°51'33"W 239.28'

0.871 AC.
S 78°08'38"W 210.19'

REMAINING PROPERTY OF
PAUL E. CRAWFORD, SR.
SHARON P. CRAWFORD
PAUL E. CRAWFORD, JR.
DB 764, PG 1...



Appendix 6
Abbreviated Design Form

Lot # 9

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 325)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 65 Length of available area 65
- E. Width of trench 3'
- F. Number of trenches 5
- G. Center-to-center spacing 11
- H. Width required 47 Width of available area 70
G(F-1) + E
- I. Total square footage required (line B times line C) 975
- J. Square footage in design (D*E*F) 975
- K. Is a reserve area required? yes No

160 Patsel Court

Septic Tank - Soil Absorption System Construction Permit

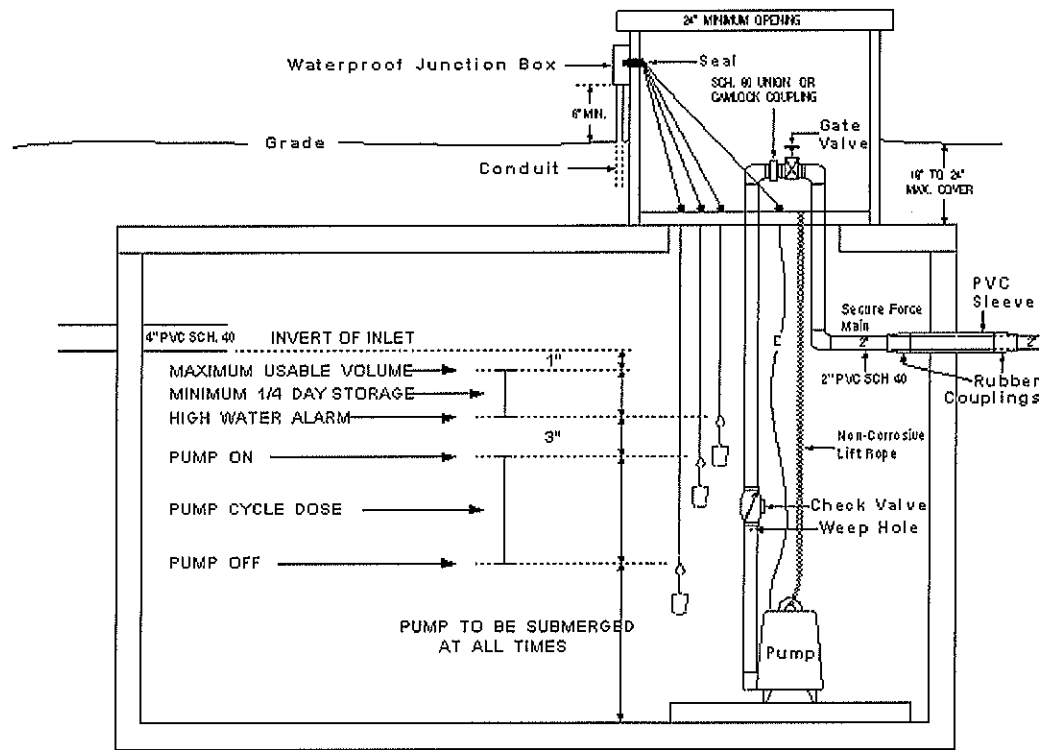
Health Department ID Number: 133 04 0397

Owner / Agent Information	
Owner: Crawford and Crawford Farm, LLC 1611 Norfolk Ave Roanoke, Virginia 24013 Agent: Carl Secrest, , Virginia	Owner Phone: (540) 342-8643 Agent Phone: .
Location Information	
Subdivision Name: Oak Run Property Address: Coopers Cove County: Franklin Directions: 122, L-116, R-Coopers Cove, 1 mi on R (just past greenhouse)	Tax Map: 5.3 GPIN: Legal Description: Section Block Lot 4
General Information	
System Type: Type of Property: Residential	Number of Bedrooms: 3 Daily Flow: 450 gallons
<p>Conditions: * All plumbing fixtures must be higher than finished grade over drainfield or a pump may be required. * All soils work & design criteria performed and certified by AOSE # 163-Frank Davis * Divert roof drains and surface water from drainfield area. * Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. * Permit void if house location interferes with approved sewage disposal system area. * Remove all maple trees and other hydrophyllic plants within 10' of drainfield area.</p>	
Sewer Line [Default 4"] SCH 40 PVC or equivalent	Distribution Box Information No. of Boxes: 1 No. of Outlets: 10
Conveyance Line/Force Main Information Method: Gravity Distribution Box Material: 4" diameter, minimum crush strength 1500# Pipe Diameter: 4" Slope: only for non-pump - 6" per 100'	Header Line Information 1500# crush Minimum slope 2"
Septic Tank - Inlet Outlet Structure Capacity: 1000 gallons The inlet structure shall be one to two inches higher than the outlet structure and shall extend six to eight inches below and eight to ten inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and eight to ten inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1. Inspection port. 2. Effluent filter. 3. Reduced maintenance tank	Percolation Lines and Absorption Area Slope: 2-4" per 100' Percolation lines: 4" diameter Center to Center Spacing: 10' Installation Depth: 54" Depth of Aggregate: 13" Size of aggregate: 0.5-1.5" # of Laterals: 5 Lateral Length: 65' Lateral Width: 3' # of Square Feet: 975

Pump Specifications

Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons
	inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute

Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.
 Pump Must Provide Gallons per Minute at System Head.



Construction Drawing

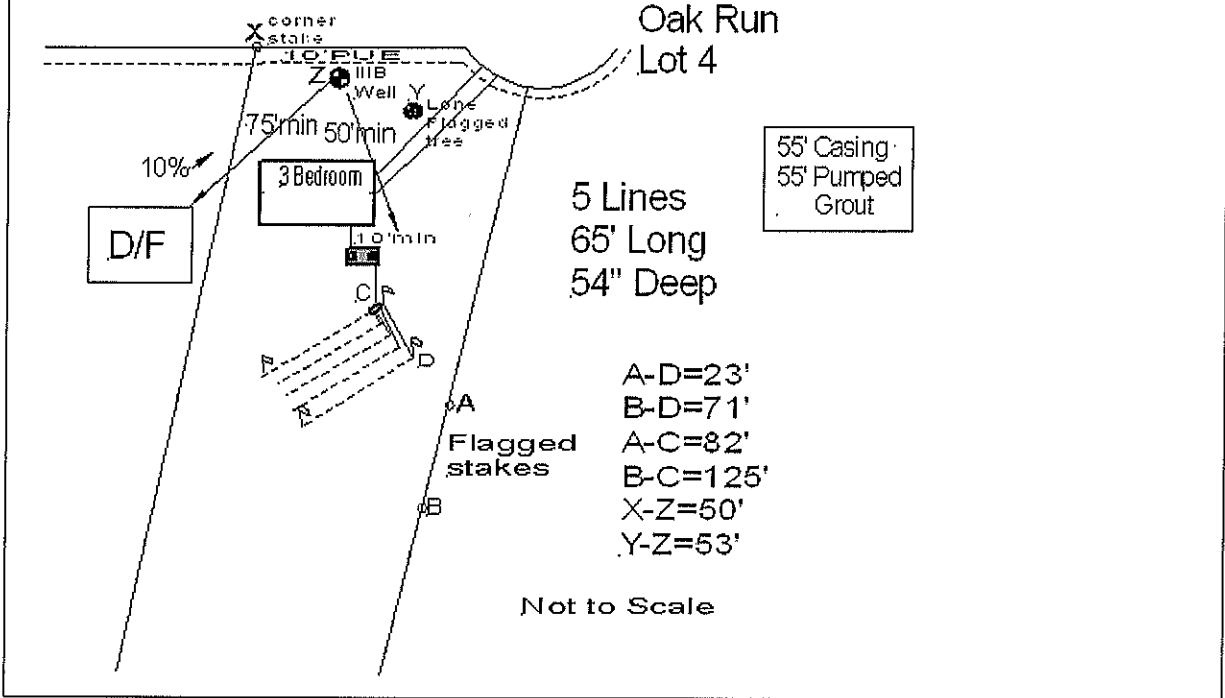
Owner Information

Crawford and Crawford Farm, LLC
 1611 Norfolk Ave
 Roanoke, Virginia 24013

Phone: (540) 342-8643
 HD ID #: 133 04 0397

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit.

No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: C. Frank Davis ; Site Evaluation Conducted By: C. Frank Davis

Kermit R. Hughes

5/11/2004
Issue Date

11/11/2005
Expiration Date



3404 Aerial Way Drive • Roanoke, VA 24018
 Phone (540) 343-3610 • Fax (540) 342-2054

Environmental
 Services Division
 Certified Lab Analyst

High Country Contractors
 Attn: Paul Crawford
 1611 Norfolk Ave., S. E.

Date Reported: March 9, 2005
 Sample Code: 05-1050

Roanoke VA 24013

Bactl Code 0678

Chain of Custody Information

Date Collected:	March 7, 2005	Date Received:	March 8, 2005
Time Collected:	1730	Time Received:	1405
Collected By:	Neil	Sample Type:	Well
Sample Notes:	Performed for: Lewis Craft		

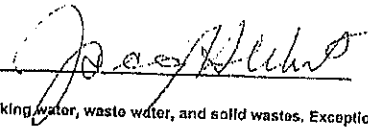
Sample Location: Building Permit #39226
 105 Parsel Court, Hardy, Va.

Analytical Data

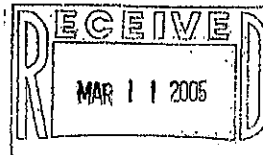
Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	03/08/05	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes. Exceptions are noted in the analytical notes section of the certificate of analysis.



Jarod
Saunders
Windy Gap

**THIS FORM MUST BE GIVEN TO WELL DRILLER
WITH THIS PERMIT TO ASSURE PROPER
INFORMATION IS SUBMITTED TO HEALTH DEPARTMENT.**

JAN 25 2005

Commonwealth of Virginia
Uniform Water Well Completion Report

Owner CRAWFORD & CRAWFORD FARM
Address _____
Phone _____
Location _____

Tax Map ID 573
VDH Permit 732-04-0397
VWCB Permit _____
VWCB ID _____
County _____

*** Well Data ***

General Information Air
Drilling Method 824
Depth to Bedrock 200ft from top
Static Water Level _____
Well Disinfected (Y or N) _____

Date Completed 10/7/04
Yield 3 (GPM)
Stabilized Water Level _____
Disinfectant Used _____

Total Depth of Well 400ft
Length of Test 30 minutes
Natural Flow (Rate) 3 gpm
Amount Used _____

Casing From Top To 824
Size 4 1/4 Material PLASTIC
Weight/Schedule 40

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

Gravel Pack From VD To _____

From _____ To _____

From _____ To _____

Grout From Top To 824
Bore Hole Size 1 1/2
Type Benson
Method plumped

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

Water Zones or Screened Intervals
From 270ft To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

*** Use Data ***

Private Well: Domestic Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non Community _____

*** Abandonment Information ***

Bored or Dug Wells
Casing Removed, Y or N? _____
If Y, Depth to which casing was removed: _____
Depth and Type of Fill: _____
Source of Fill: _____
Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells
Casing removed, Y or N? _____
Depth to which casing was removed: _____
Applicable, depth(s), and type of gravel/sand fill: _____
Source of gravel or sand: _____
Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

• Drillers Log •

Depth	Description of Formation or Sediment	Remarks
Top to 82ft,	Clay and Sandstone.	
82ft. to 400ft.	Limestone and Granite	

(Use additional Sheets if necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the part further that the well complies with all applicable state and local regulations, ordinances and laws.

Name Howard E. Huff
 Address 836 Greenway Pl
Glad Hill Va 24602
 Phone 483-7545

Drillers Signature Howard E. Huff Drilling Inc.
 Date 12/3/04 Representing Southwest Oil Co.

Virginia Contractors License Number 019405

Jared
Saunders
Windy Gap

**THIS FORM MUST BE GIVEN TO WELL DRILLER
WITH THIS PERMIT TO ASSURE PROPER
INFORMATION IS SUBMITTED TO HEALTH DEPARTMENT.**

JAN 25 2005

Commonwealth of Virginia
Uniform Water Well Completion Report

Owner Crawford + Crawford Farm
Address _____
Phone _____
Location _____

Tax Map ID 5.3
VDH Permit 732-04-0397
WVCB Permit _____
WVCB ID _____
County _____

*** Well Data ***

General Information
Drilling Method Air
Depth to Bedrock 82 ft
Static Water Level 60 ft from top
Well Disinfected (Y or N) _____

Date Completed 10/7/04
Yield 3 (GPM)
Stabilized Water Level _____
Disinfectant Used _____

Total Depth of Well 400 ft
Length of Test 30 min test
Natural Flow (Rate) 3 gpm
Amount Used _____

Casing
From Top To 82 ft
Size 6 1/4 Material Plastic
Weight/Schedule 40

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

From _____ To _____
Size _____ Material _____
Weight/Schedule _____

Gravel Pack
From ND To _____

From _____ To _____

From _____ To _____

Grout
From Top To 50 ft
Bore Hole Size 11 1/2
Type Benzeal
Method pumped

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

From _____ To _____
Bore Hole Size _____
Type _____
Method _____

Water Zones or Screened Intervals
From 270 ft To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

From _____ To _____
Mesh Size _____ Diam _____
From _____ To _____
Mesh Size _____ Diam _____

*** Use Data ***

Private Well: Domestic Agricultural _____ Industrial _____ Monitoring _____
Public Well: Community _____ Non Community _____

*** Abandonment Information ***

Bored or Dug Wells
Casing Removed, Y or N? _____
If Y, Depth to which casing was removed: _____
Depth and Type of Fill: _____
Source of Fill _____
Bentonite Plugs: From _____ to _____ From _____ to _____

Wells other than Bored Wells
Casing removed, Y or N? _____
Depth to which casing was removed: _____
Applicable, depth(s), and type of gravel/sand fill: _____
Source of gravel or sand: _____
Cement: From _____ to _____ From _____ to _____

Method of permanently marking location: _____

* Drillers Log *

Depth	Description of Formation or Sediment	Remarks
Top to 82ft,	Clay and Sandstone	
82ft to 400ft,	Limestone and Granite	

(Use additional Sheets if necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit further that the well complies with all applicable state and local regulations, ordinances and laws.

Name Howard E. Huff
 Address 836 Greenwood Rd
Glade Hill, Va 24092
 Phone 983-7545

Drillers Signature Howard E Huff Drilling Inc,
 Date 12/3/04 Representing Southern Owen

Virginia Contractors License Number 019405

**WARRANTY,
NOTICE OF SUBSTITUTION
And
WAIVER OF LIABILITY**

County/City of FRANKLIN
Sewage Disposal System Construction Permit ID # _____
Tax Map # 532 or property description: LOT 4 - OAK RUN
Owner: CRAWFORD & CRAWFORD FARM LLC
Date: 1-4-05

LIMITED FIVE YEAR WARRANTY

- a) **Ring Industrial Group, EZflow** warrants that the **EZflow™ EPS Aggregate System** manufactured by **Ring Industrial Group, EZflow**, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP 116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the **EZflow™ EPS Aggregate System** must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.
- b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install **EZflow™ EPS Aggregate System** units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be

responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

VDH GMP #116: Warranty/Notice of Substitution/Waiver
Prior Permit Owner Elects Substitute System
Ring Industrial Group, EZflow
120302

NOTICE OF SUBSTITUTION
(WHERE VDH HAS ISSUED A PERMIT FOR A GRAVEL-TYPE DRAINFIELD)

This is to notify the Virginia Department of Health ("VDH") that a **EZflow™ EPS Aggregate System – Model EZ _____**, ("Substituted System") Will be substituted for a gravel-type drainfield system specified on the above-referenced sewage disposal system construction permit.

I understand that the Substituted System is not the system that would be designed by the ~~FRANKLIN~~ County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system prescribed by the County/City Health Department in the above-referenced permit.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

VDH GMP #116: Warranty/Notice of Substitution/Waiver
Prior Permit Owner Elects Substitute System
Ring Industrial Group, EZflow
120302

EXCEPTION- Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to § 32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this **WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER** and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

160 PATSEL CT
Address of Installation (Street)
HARDY VA 24101
(City)
DAK RUN LOT 4
(Subdivision Name) (Lot #)

CRAWFORD CRAWFORD FARMS LLC
Name (print) and Address of Property Owner
1449 LAKE ROSE CR
TRONSVILLE VA 24175
Paul Crawford 1-04-05
Property Owner Signature Date

I acknowledge to the Company and the homeowner that the septic system and the **EZflow™ EPS Aggregate System** units have been installed in accordance with GMP 116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

HIGH COUNTRY CONTRACTORS INC
Business Name of Installer Name (print)

1611 NORFOLK AVE ROANOKE VA 24013
Address of Installer (Street/P.O. Box) (City) (State) (Zip)

540-342-8643 Paul Crawford 1-04-05
(Phone) Signature Date

Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 155-04-0597

Franklin Co. Health Department

Name of Company/Corporation/Individual: High Country Contractors

Address: _____ Telephone: _____

Owner's Name C. D. A. Crawford Farm, LLC

Owner's Address 1411 Norfolk Ave. Roanoke, VA 24015

Location of Installation: Lot 4 Block _____

Section: _____ Subdivision: Oak Run

Other: 132 N. 1-116, L. Capri's Cove, Units on right just past greenhouse

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 8-11-04 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

8-27-04

Date

[Signature]
Signature and Title

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department

Applicant Paul Crawford Telephone No. 537-1307

Address 1811 Norfolk Avenue Roanoke, Va 24101

Owner Same Address _____

Location _____

Tax Map S-3-~~blwy~~ Subdivision Oak Run

Block/Section _____ Lot 4

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
Describe side slope

2. Slope 17 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No
If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 54" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Date of Evaluation 3/10/03

Page 2 of 4

Profile Description
SOIL EVALUATION REPORT

Lot #4

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-18"	Dark Red Clay	IV
	Bt2	18"-30"	Red Clay Loam	III
	C1	30"-66"	Brownish Red Sandy Loam	II
	C2	66"-72"	Brown Slightly Dense Sandy loam w/Many fine weathered Rock Fragments	II
2	A	0"-4"	Brown Loam	II
	Bt1	4"-30"	Dark Red Clay	IV
	Bt2	30"-42"	Red Clay Loam	III
	C	42"-72"	Reddish Brown Sandy Loam	II
3	A	0"-4"	Brown Loam	II
	Bt1	4"-30"	Dark Red Clay	IV
	Bt2	30"-42"	Red Clay Loam	III
	C1	42"-54"	Red Mic. Loam	II
	C2	54"-72"	Reddish Brown Mic. Loam	II

Remarks:

Appendix 6
Abbreviated Design Form

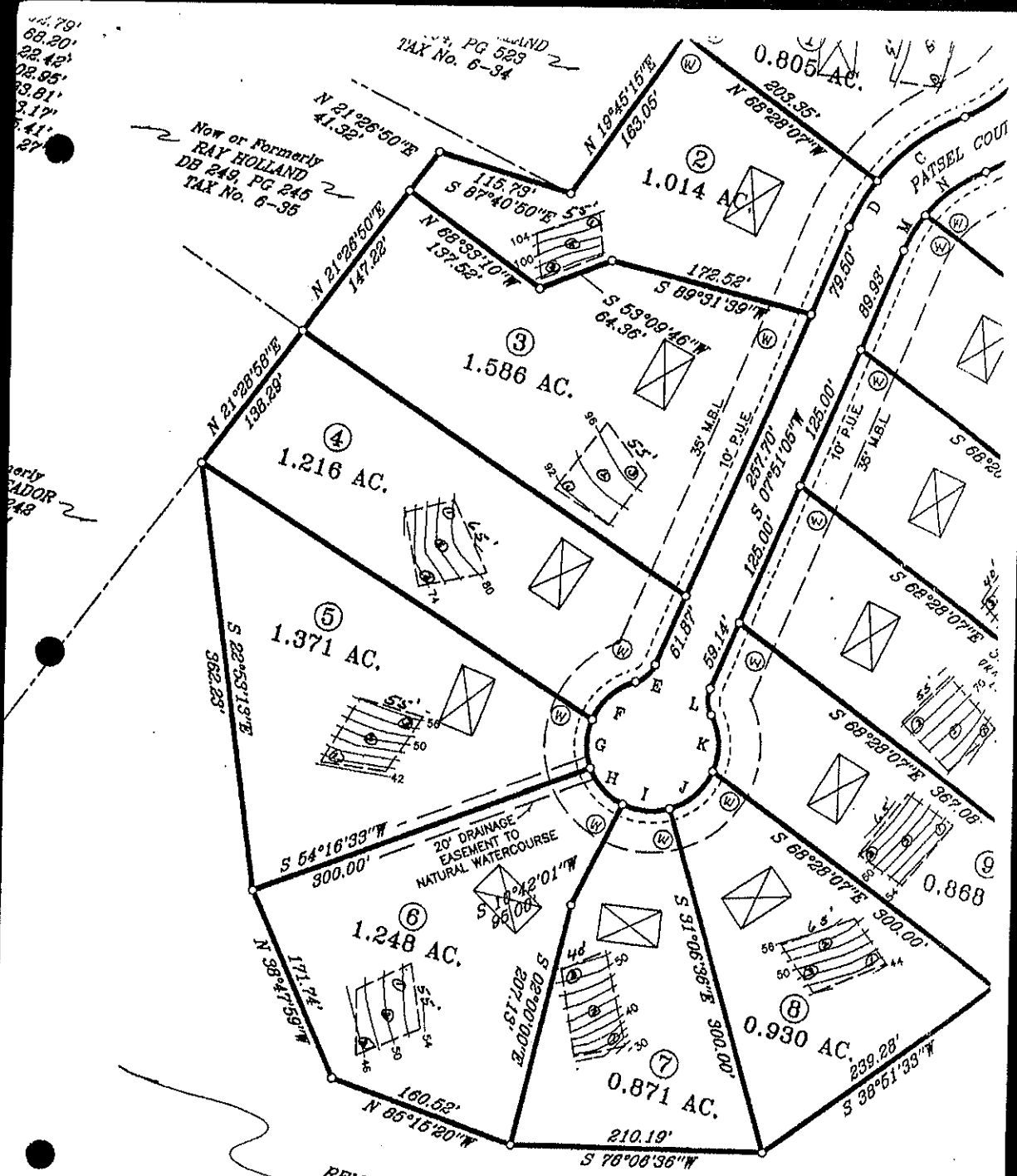
For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 325)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 65 Length of available area 65
- E. Width of trench 3'
- F. Number of trenches 5
- G. Center-to-center- spacing 10
- H. Width required 43 Width of available area 43
G(F-1) + E
- I. Total square footage required 975
(line B times line C)
- J. Square footage in design 975
(D*E*F)
- K. Is a reserve area required? yes No



79'
 68.20'
 22.42'
 28.85'
 33.81'
 31.17'
 3.41'
 27'

AND
 PG 523
 TAX No. 6-34

Now or Formerly
 RAY HOLLAND
 DB 249, PG 245
 TAX No. 6-35

RAY
 ADOR
 248

REMAINING PROPERTY OF
 PAUL E. CRAWFORD, SR.
 SHARON P. CRAWFORD
 PAUL E. CRAWFORD, JR.
 DB 764, PG 140
 TAX No.

163 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Affordable Home Improvements
3925 Apricot Tr
Roanoke, Virginia 24012
Phone: (540) 977-4685

Health Dept. ID: 133 05 1148

Tax Map: 5.3-8

Locality: Franklin

Property Location

Property Address: 163 Patsel Ct
Hardy, Virginia 24101
Subdivision: Oak Run , Lot 8
Directions: 122, L116, R-Coopers Cove Rd, R-Patsel Ct

=====
Affordable Home Improvements is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

August 23, 2006
Effective Date

John W. Walke
EHS

Signed August 23, 2006

Septic Tank - Soil Absorption System Construction Permit

Health Department ID Number: 133 05 1148

Owner / Agent Information	
Owner: Affordable Home Improvements 3925 Apricot Tr Roanoke, Virginia 24012 Owner Phone: (540) 977-4685	Agent: Edward Lindsey

Location Information	
Subdivision: Oak Run , Lot 8 Property Address: Patsel Ct Locality: Franklin	Tax Map: 5.3-8
Directions: 122, L116, R-Coopers Cove Rd, R-Patsel Ct	

General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum

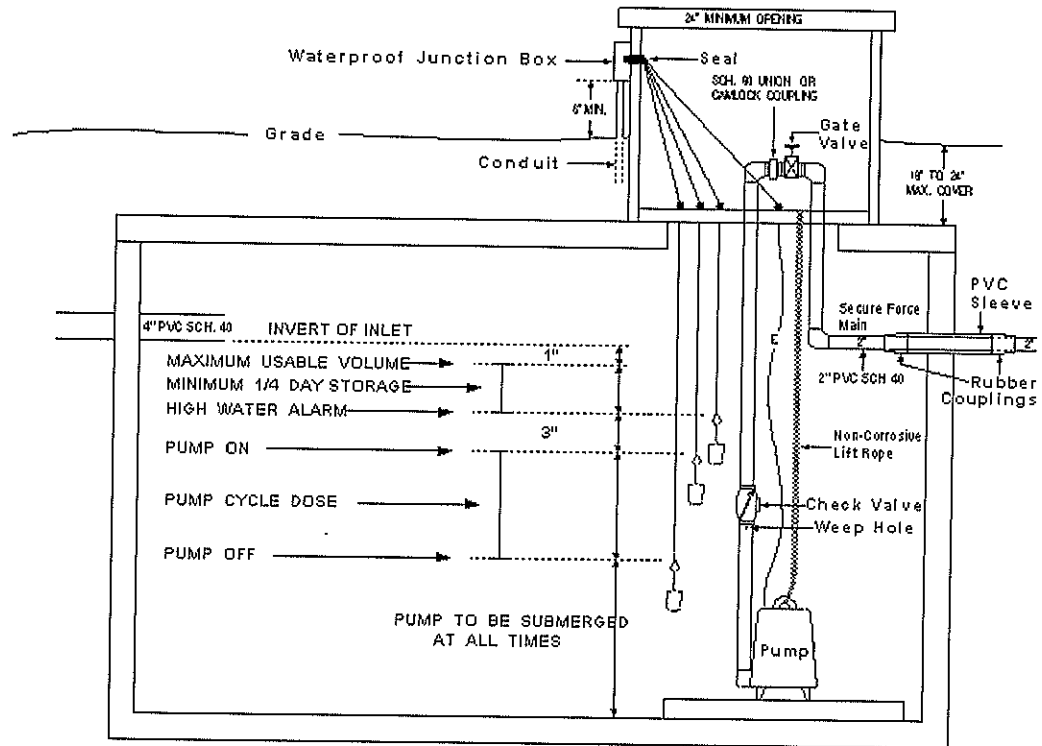
Sewer Line 3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	Distribution Box Information No. of Boxes: 1 No. of Outlets: 10
---	--

Conveyance Line / Force Main Information Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 3" Minimum Slope: 6" per 100' (only for non-pump)	Header Line Information ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
--	--

Septic Tank - Inlet Outlet Structure Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Percolation Lines and Absorption Area Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 11' Installation Depth: 42" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 5 Laterals to be 65' long, x 3' wide Install 975 Square Feet Total 0% Reserve Area Required for Future Repairs
--	---

Please Note: Divert roof drains and surface water from drainfield area. Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. Maintain 50' minimum from septic tank to all wells. Maintain 50' minimum from subsurface sewage disposal system to IIIB wells. Remove all maple trees and other hydrophyllic (water loving) plants from within 10' of drainfield area. See the Construction Drawing page for site sketch showing the system location. Water Supply = proposed IIIB well.

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons
	inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



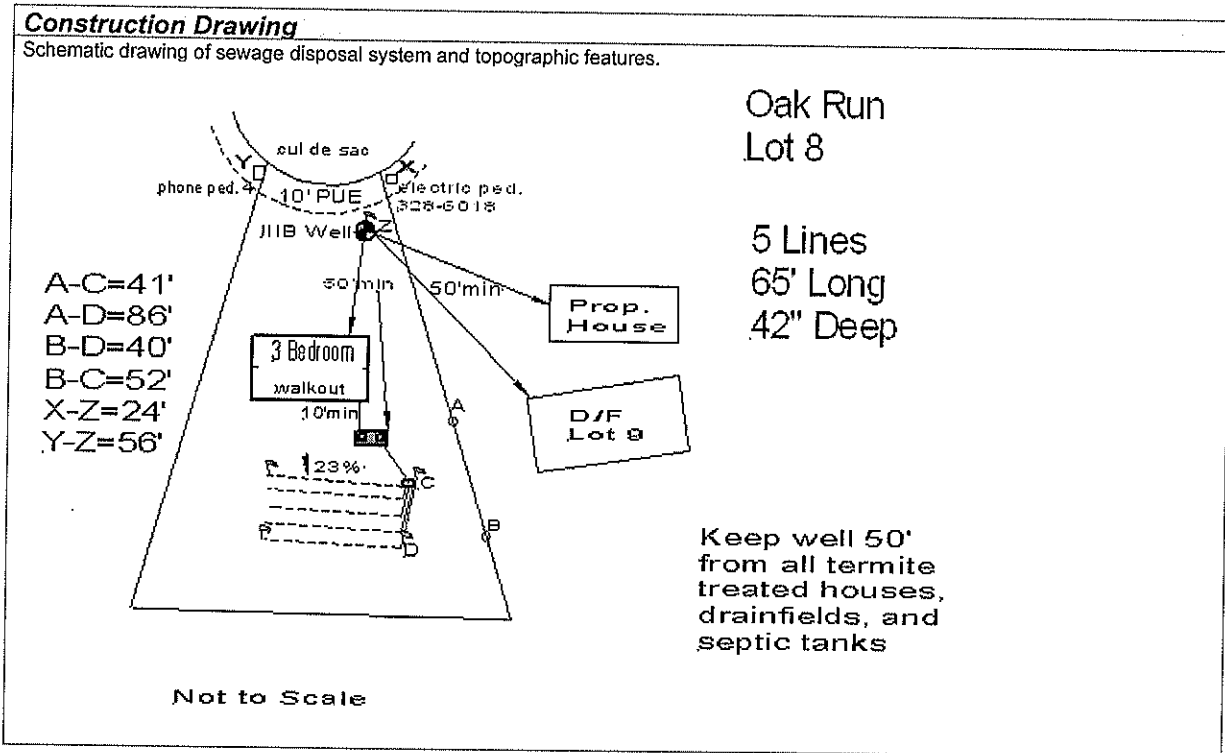
Owner Information

Affordable Home Improvements
3925 Apricot Tr
Roanoke, Virginia 24012

Phone: (540) 977-4685

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



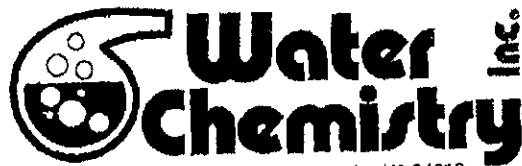
This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Rodney Hughes; Site Evaluation By: Davis, C. Frank

Rodney Hughes

November 30, 2005
Issue Date

May 30, 2007
Expiration Date



3404 Aerial Way Drive • Roanoke, VA 24018
Phone (540) 343-3618 • Fax (540) 342-2054

Environmental Services Division

Certificate of Analysis

Rorrer Well Drilling, Inc.
P. O. Box 674

Date Reported: July 14, 2006

Sample Code: 06-2693

Bacti Code 1588

Christiansburg VA 24073

VDH 133-05-1148

Chain of Custody Information

Date Collected: July 13, 2006

Date Received: July 13, 2006

Time Collected: 1215

Time Received: 1600

Collected By: Rorrer Well Drilling - Scott

Sample Type: Well

Sample Notes:

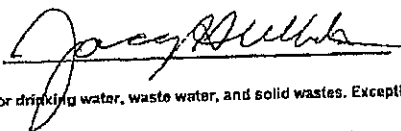
Sample Location: Pastel Ct., Lot 45

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	07/13/06	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By: 

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes. Exceptions are noted in the analytical notes section of the certificate of analysis.

**Commonwealth of Virginia
Uniform Water Well Completion Report**

Owner- **Affordable Home Improvements**
 Address-
 Phone-
 Location- **Oak Run/Lot 8**

Tax Map ID- **5.3-8**
 VDH Permit- **133-05-1148**
 VWCB ID-
 County- **Franklin**

Well Data

General Information

Drilling Method-	Air Rotary	Date Completed-	02-17-06	Total Depth of Well-	300'
Depth to Bedrock-	42'	Yield-	12 (GPM)	Length of Test-	
Static Water Level-	150'	Stabilized Water Level-		Natural Flow (Rate)-	
Well Disinfected?-	Yes	Disinfectant Used-	Chlorine Tabs	Amount Used-	2#

Casing

From 0	To 103'	From	To	From	To
Size-	6-1/8	Size-		Size-	
Material-	PVC	Material-		Material-	
Weight/Schedule-	SDR-21	Weight/Schedule-		Weight/Schedule-	

Gravel Pack

From	To	From	To	From	To
------	----	------	----	------	----

Grout

From 0	To 103'	From	To	From	To
Bore Hole Size-	10"	Bore Hole Size-		Bore Hole Size-	
Type-	Baroid Benseal	Type-		Type-	
Method-	Pumped	Method-		Method-	

Water Zones or Screened Intervals

From 207	To 208	From	To	From	To
Mesh Size-		Mesh Size-		Mesh Size-	
From	To	From	To	From	To
Mesh Size-		Mesh Size-		Mesh Size-	

Use Data

Private Well:	Domestic	X	Agricultural	Industrial	Monitoring
Public Well:	Community		Non Community		

Drillers Log
(Use additional sheets if necessary)

Depth	Description of Formation or Sediment	Remarks
0-42 42-84 84-300	Overburden Fractured Granite Granite	

I certify that the above information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Drilling Contractor- **Rorrer Well Drilling, Inc.**

Address- **P.O. Box 674, Christiansburg, VA 24068**

Phone- **(540) 552-6029 * 389-0070 * 745-6448 * 297-8677 * (276) 964-4114**

Drillers Signature *Pete Hulmandollar* Date *2-17-06*

Representing- **Rorrer Well Drilling, Inc.**

Virginia Contractors License Number- **2705040836A**

JUN 10 2005

WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

County/City of FRANKLIN
Wastewater Disposal System Construction Permit ID # 123-03-1220 Tax Map # 5-3
Property description: LOT 1 OAKBROOK PATSELER
Owner: RAYMOND PATSELER 10-15-04

LIMITED FIVE YEAR WARRANTY

1) Ring Industrial Group, EZflow warrants that the EZflow™ EPS Aggregate Systems manufactured by Ring Industrial Group, EZflow, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health (GMP #16, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.

2) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of this warranty which is filed and dated by the installer and the property owner as set forth below; (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

3) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES; THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGES DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLIGENCE; THE UNITS BEING SUBSTITUTED OR VEHICLES OR TRAFFIC OBSTRUCTION; THAN THOSE DESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM-GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY, RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

4) No representative of the Company has the authority to change this warranty in any manner whatsoever; or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that a EZflow™ EPS Aggregate System - Model EZ _____ ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the FRANKLIN County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidelines Memoranda and Policy (GMP) #16. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to ensure that any absorption area that is not used, will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their Insurers, officers, directors, employees, representatives, and agents (hereafter referred to as the "COMMONWEALTH OF VIRGINIA"), from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or may in the future have or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION- Onsite Sewage Indemnification Funds: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §22.1-164.01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's indemnification of the Substituted System pursuant to GMP #16 shall not constitute an act of negligence pursuant to §22.1-164.01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

RAY PATSELER
Address of Installation (Street):
1609 VA 24013
City:
State:
Subdivision Name: (Lot #)

CRAWFORD CLEAN FOOD FARMS
Name (print) and Address of Property Owner
Paul Crawford
Date

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP #16, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

HIGH COUNTRY CONTRACTORS
Business Name of Installer
1611 Norcross Ave
Address of Installer (Street/P.O. Box)
City:
State:
(Phone)

Paul Crawford
Signature
Date 10-15-04

Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133-05-1148

Franklin Co. Health Department

Name of Company/Corporation/Individual: D J Excavating High Country Contractors

Address: 1611 Norfolk Ave, ^{Roanoke} Eagle Rock, VA Telephone: 884-2924

Owner's Name Affordable Home Improvements

Owner's Address 3925 Apricot Tr., Roanoke, VA 24102

Location of Installation: Lot 8 Block _____

Section: _____ Subdivision: Oak Run

Other: _____

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 11/30/2005 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

7/27/06
Date

John A. Jones
Signature and Title



STATE OF VIRGINIA
WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY

ATT: John Walker

County/City of Franklin Sewage Disposal System Construction Permit ID # 13365 1148
Tax Map # 2-3-8 or Property Description: Oak Run, Lot 8
Owner: Edward Lindsey Date: 8-2-06

LIMITED FIVE YEAR WARRANTY

- a) RING Industrial Group, LP, warrants that the EZflow™ EPS Aggregate System manufactured by RING Industrial Group, LP, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP #16, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.
- b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below, (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, OVERHEAD COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, ACCIDENT, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS, OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION

(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that an EZflow™ EPS Aggregate System - MODEL 1203H ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the _____ County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memoranda and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents [hereafter referred to as the "COMMONWEALTH OF VIRGINIA"], from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION--Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.101 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §32.1-164.101 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Address of Installation (Street) Lot 8 Oak Run
Hardy, VA
 (City) Oak Run
 (Subdivision Name) _____ (Lot #) _____

Name of Property Owner (print) Edward Lindsey - Affordable Home Improvements
 Address of Property Owner Lot 8 Oak Run, Hardy, VA / 3025 Apricot Trail
Roanoke, VA 24012
 Property Owner Signature _____ Date 8/2/06

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP #116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

Business Name of Installer High Country Contractors, Inc.
 Address of Installer (Street/P.O. Box) 1611 Dog Bark Avenue SE
 (City) Roanoke (State) VA (Zip) 24013

Phone 540-342-8413 Signature _____ Date 8/2/06

This warranty is provided in triplicate. One copy shall go to RING Industrial Group, one to the local health department, and one to the system owner.

Write: RING Industrial Group, LP, 65 Industrial Park, Oakland, CA 94600 (800) 649-0253

1048-082505

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1611 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map S-3-1111 Subdivision Oak Run
 Block/Section _____ Lot 8

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope
2. Slope 23 %
3. Depth to rock or impervious strata: Max. _____ Min. _____ None
4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches
5. Free water present No Yes _____ range in inches
6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 mku/inch
7. Permeability test performed Yes No

If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 42" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #8

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-24"	Dark Red Clay	IV
	Bt2	24"-30"	Red Clay Loam	III
	C1	30"-36"	Yellowish Red Sandy Loam	II
	C2	36"-60"	Brown Mic. Loam	II
2	A	0"-4"	Brown Loam	II
	Bt1	4"-18"	Dark Red Clay	IV
	Bt2	18"-24"	Red Clay Loam	III
	C1	24"-42"	Reddish Brown Sandy Loam	II
	C2	42"-72"	Brown Slightly Dense Sandy Loam w/Many Fine Weathered Rock Fragments	II
3	A	0"-4"	Brown Loam	II
	Bt	4"-12"	Dark Red Clay	IV
	C1	12"-42"	Brownish Red Fine Sandy Loam	II
	C2	42"-66"	Brown Fine Sandy Loam	II
Remarks:				

1.20'
48'
95'
21'

LAND
PG 529
TAX No. 6-34

Now or Formerly
RAY HOLLAND
DB 249, PG 245
TAX No. 6-35

0.805 AC.

1.014 AC.

1.588 AC.

1.216 AC.

1.371 AC.

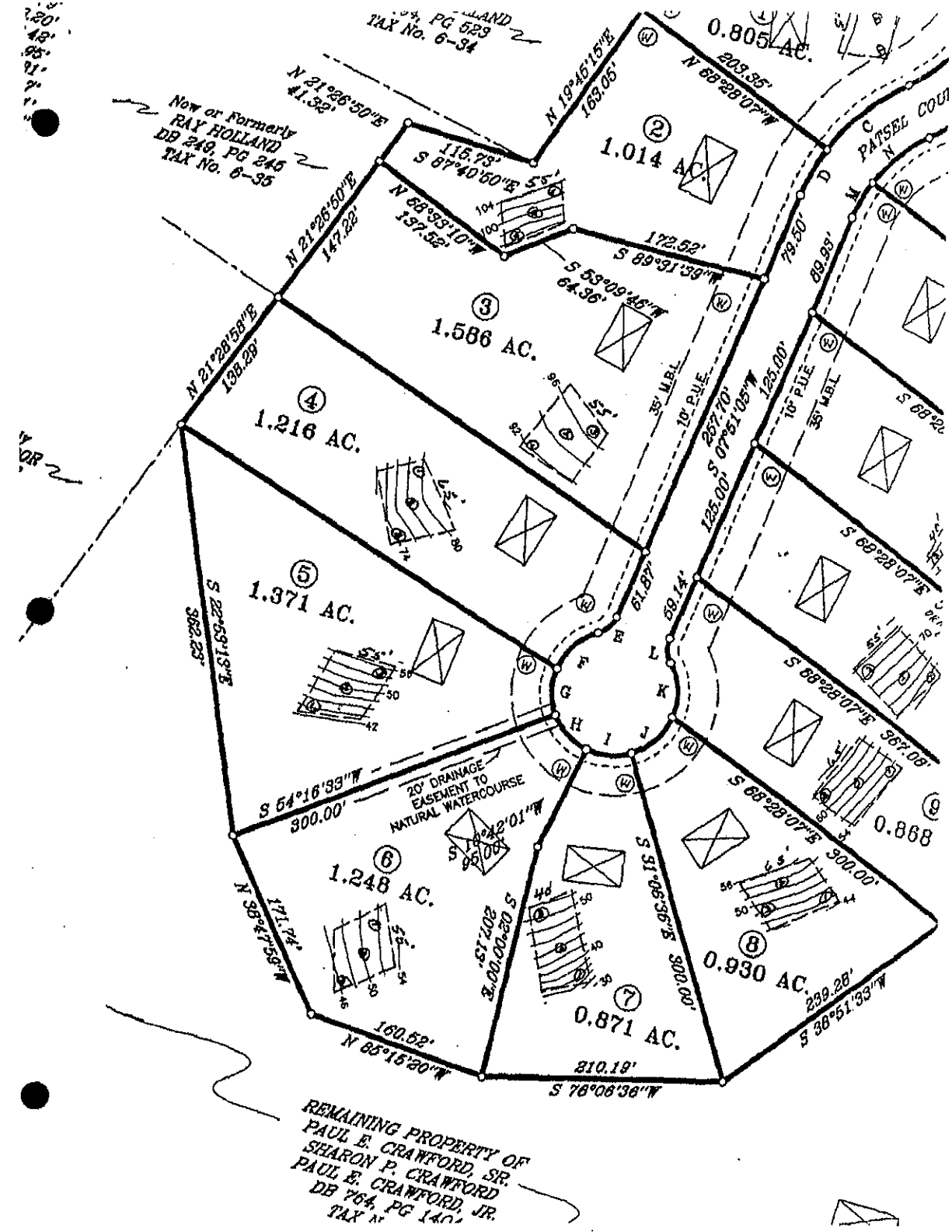
1.248 AC.

0.871 AC.

0.930 AC.

0.868

REMAINING PROPERTY OF
PAUL E. CRANFORD, SR.
SHARON P. CRANFORD
PAUL E. CRANFORD, JR.
DB 764, PG 140
TAX N



Appendix 6
Abbreviated Design Form

Lot # 8

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 325
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 65 Length of available area 65
- E. Width of trench 3'
- F. Number of trenches 5
- G. Center-to-center spacing 11
- H. Width required 47 Width of available area 70
G(F-1) + E
- I. Total square footage required (line B times line C) 975
- J. Square footage in design (D*E*F) 975
- K. Is a reserve area required? yes No

164 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Harold W Ewers
60 Patsel Court
Hardy, Virginia 24101
Phone: (540) 427-1548

Health Dept. ID: 133 06 1007

Tax Map: 5.3-6

Locality: Franklin

Property Location

Property Address: 164 Patsel Court
Hardy, Virginia 24101

Subdivision: Oak Run , Lot 6

Directions: 122, L116, R-Coopers Cove Rd, R-Patsel Court to end of cul de sac

=====

Harold W Ewers is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **600** gallons per day, or **4** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

October 25, 2007
Effective Date

Briana L. Brooks
EHS

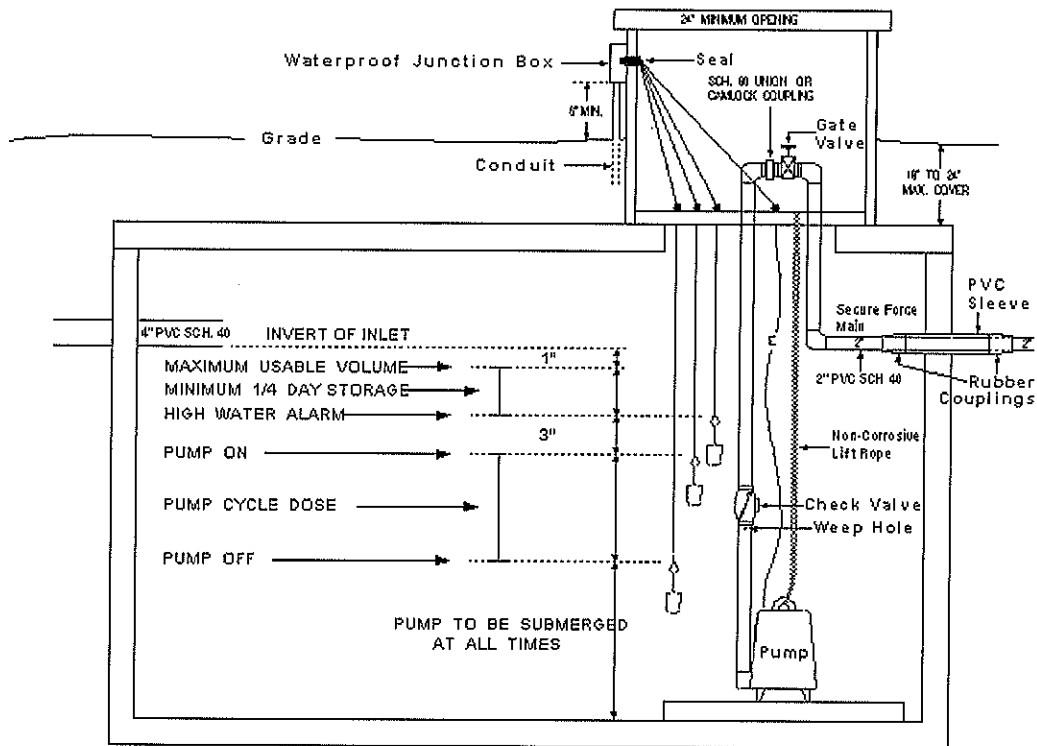
Signed October 25, 2007

Septic Tank - Soil Absorption System Construction Permit

Health Department ID Number: **133 06 1007**

Owner / Agent Information	
Owner: Harold W Ewers 60 Patsel Court Hardy, Virginia 24101 Owner Phone: (540) 427-1548	
Location Information	
Subdivision: Oak Run , Lot 6 Property Address: Patsel Court Locality: Franklin	Tax Map: 5-3-6
Directions: 122, L116, R-Coopers Cove Rd, R-Patsel Court to end of cul de sac	
General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 600 gallons Number of Bedrooms: 4 maximum
Sewer Line	Distribution Box Information
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	No. of Boxes: 1 No. of Outlets: 16
Conveyance Line / Force Main Information	Header Line Information
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 3" Minimum Slope: 6" per 100' (only for non-pump)	ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
Septic Tank - Inlet Outlet Structure	Percolation Lines and Absorption Area
Capacity: 1500 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 10' Installation Depth: 66" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 8 Laterals to be 55' long, x 3' wide Install 1320 Square Feet Total 0% Reserve Area Required for Future Repairs
<p>Please Note: All excavations must comply with OSHA safety regulations. Divert roof drains and surface water from drainfield area. Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. Maintain 50' minimum from septic tank to all wells. Maintain 50' minimum from subsurface sewage disposal system to IIB wells. Remove all maple trees and other hydrophyllic (water loving) plants from within 10' of drainfield area. See the Construction Drawing page for site sketch showing the system location. This permit is null and void if the house location is changed and interferes with the approved sewage disposal system area. Water Supply = proposed IIB well.</p>	

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



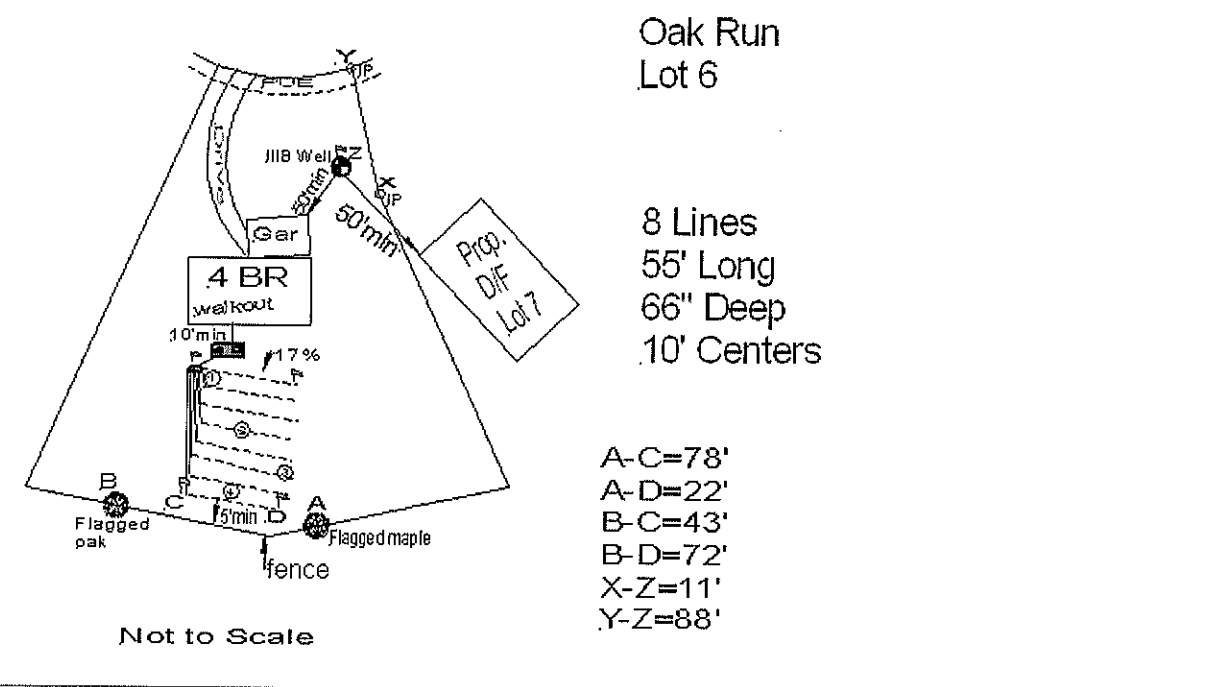
Owner Information

Harold W Ewers
60 Patsel Court
Hardy, Virginia 24101

Phone: (540) 427-1548

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



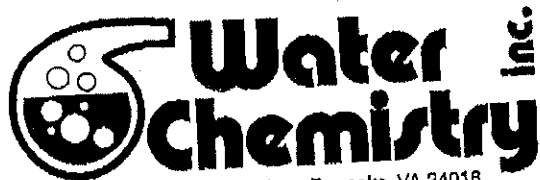
This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Rodney Hughes ; Site Evaluation By: Davis, Claude Franklin

Rodney Hughes

November 28, 2006
Issue Date

May 28, 2008
Expiration Date



3404 Aerial Way Drive • Roanoke, VA 24018
Phone (540) 343-3618 • Fax (540) 342-2054

Shell's Pump Sales & Service, Inc.
147 Shell Dr.

Environmental Services Division

Certificate of Analysis

Date Reported: October 16, 2007

Sample Code: 07-3653

Bactl Code 1963

Hardy

VA 24101

133 061007

Chain of Custody Information

Date Collected: October 15, 2007
Time Collected: 1230
Collected By: Eric Shell
Sample Notes: Performed for: Harold Ewers
Building Permit # 45999

Date Received: October 15, 2007
Time Received: 1310
Sample Type: Well

Sample Location: 164 Patsel Ct., Hardy, Va.

Analytical Data

Parameter	Result	Method	Date	Analyst
Total Coliform Bacteria	Absent	ONPG-MUG	10/15/2007	JHW
E. Coli Bacteria	Absent			

Analytical Notes: Analysis indicates sample meets the standards established by the U.S.E.P.A. for drinking water.

Laboratory Certification No: Virginia #00423

By:

Analytical data meet precision and accuracy criteria established by the U.S.E.P.A. for drinking water, waste water, and solid wastes.
Exceptions are noted in the analytical notes section of the certificate of analysis.

Commonwealth of Virginia Uniform Water Well Completion Report

Owner: HAROLD W. EWELS
 Address: _____
 Phone: _____
 Location: _____
 VHD Permit # 133-06-1007
 Tax Map # _____
 County FRANKLIN

* Well Data *

<p>General Information Drilling Method <u>Air</u> Depth to Bedrock <u>92 ft.</u> Static Water Level <u>600 ft. from top</u> Well Disinfected (Y or N) _____</p> <p>Casing From <u>TOP</u> To <u>92 ft.</u> Size <u>4 1/2"</u> Material <u>plastic</u> Weight/Schedule <u>40</u></p> <p>Gravel Pack From <u>NO</u> To _____</p> <p>Grout From <u>TOP</u> To <u>92 ft.</u> Bore Hole Size <u>11 1/8"</u> Type <u>Ben seal</u> Method <u>pumped</u></p> <p>Water Zones or Screened Intervals From <u>260 ft.</u> To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____</p>	<p>Date Completed <u>11/31/07</u> Yield _____ (GMP) Stabilized Water Level _____ Disinfectant Used _____</p> <p>From _____ To _____ Size _____ Material _____ Weight/Schedule _____</p> <p>From _____ To _____ Bore Hole Size _____ Type _____ Method _____</p> <p>From _____ To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____</p>	<p>Total Depth of Well <u>560 ft.</u> Length of Test <u>30 minutes</u> Natural Flow (Rate) <u>1 gpm</u> Amount Used _____</p> <p>From _____ To _____ Size _____ Material _____ Weight/Schedule _____</p> <p>From _____ To _____ Bore Hole Size _____ Type _____ Method _____</p> <p>From _____ To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____</p>
---	---	--

* Use Data *

Private Well: _____
 Public Well: _____
 Domestic Agricultural _____ Industrial _____ Monitoring _____
 Community _____ Non-community _____

* Abandonment Information *

<p>Bored or Dug Wells Casing Removed, Y or N? _____ If Y, Depth to which casing was removed: _____ Depth and Type of Fill: _____ Source of Fill _____ Bentonite Plugs: From _____ to _____ From _____ to _____ Method of permanently marking location: _____</p>	<p>Wells other than Bored Wells Casing removed, Y or N? _____ Depth to which casing was removed: _____ Applicable, depth(s), and type of gravel/sand fill: _____ Source of gravel or sand: _____ Cement: From _____ to _____ From _____ to _____</p>
---	--

* Drillers Log *

Depth	Description of Formation or Sediment	Remarks
Top to 92 ft.	Clay and Sandstone	
92 ft. to 560 ft.	Limestone and Granite	

(Use Additional Sheets if necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further complies with all applicable state and local regulations, ordinances and laws.

Name Southern Well Drilling Inc.
Address 836 Greenway Rd
Glade Hill Va 24042
Phone 483-7541
Drillers Signature Howard E. Huff
Date 10/24/07 Representing Southern Well Drilling Inc.
Virginia Contractors License Number 115189

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1811 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map 3-May Subdivision Oak Run
 Block/Section _____ Lot 6

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope
2. Slope 17 %
3. Depth to rock or impervious strata: Max. _____ Min. _____ None
4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches
5. Free water present No Yes _____ range in inches
6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch
7. Permeability test performed Yes No

If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 68" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Date of Evaluation 3/10/03

Page 2 of 4

Profile Description
SOIL EVALUATION REPORT

Lot 16

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of, color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-30"	Red Clay Loam	III
	Bt2	30"-54"	Reddish Brown Clay Loam	III
	C	54"-84"	Brown Mic. Loam	II
2	A	0"-4"	Brown Loam	II
	Bt	4"-54"	Red Clay Loam	III
	C1	54"-78"	Brownish Red Mic. Fine Sandy Loam	II
	C2	78"-84"	Brown slightly Dense Sandy Loam w/ Many Fine Weathered Rock Fragments	II
3	A	0"-4"	Brown Loam	II
	Bt	4"-30"	Red Clay Loam	III
	C1	30"-54"	Brownish Red Slightly Dense Fine Sandy Loam	II
	C2	54"-84"	Brown Mic. Loam	II
Remarks:				

Page 4 of 4

Appendix 6
Abbreviated Design Form

Lot # 6

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 330)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 55 Length of available area 55
- E. Width of trench 3'
- F. Number of trenches 6
- G. Center-to-center spacing 10
- H. Width required 53 Width of available area 73
($G(F-1) + E$)
- I. Total square footage required (line B times line C) 990
- J. Square footage in design ($D \cdot E \cdot F$) 990
- K. Is a reserve area required? yes No

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department

Applicant Paul Crawford Telephone No. 537-1307

Address 1811 Norfolk Avenue Roanoke, Va 24101

Owner Same Address _____

Location _____

Tax Map 3-May Subdivision Oak Run

Block/Section _____ Lot 7

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
Describe side slope

2. Slope 23 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No
If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 42" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Date of Evaluation 3/10/03

Page 2 of 4

Profile Description
SOIL EVALUATION REPORT

Lot #7

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt1	4"-15"	Dark Red Clay	IV
	Bt2	15"-30"	Red Clay Loam	III
	C1	30"-48"	Yellowish Red slightly Dense Sandy Loam	II
	C2	48"-60"	Whitish slightly Dense Sandy Loam	II
	2	A	0"-4"	Brown Loam
2	Bt	4"-24"	Red Clay Loam	III
	C1	24"-36"	Reddish Brown Mic. Loam	II
	C2	36"-72"	Brown Mic. Loam	II
	3	A	0"-4"	Brown Loam
3	Bt	4"-24"	Red Clay Loam	III
	C1	24"-36"	Red Mic. Loam	II
	C2	36"-72"	Brown Mic. Loam	II
	Remarks:			

Page 4 of 4

Appendix 6
Abbreviated Design Form

Lot # 7

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

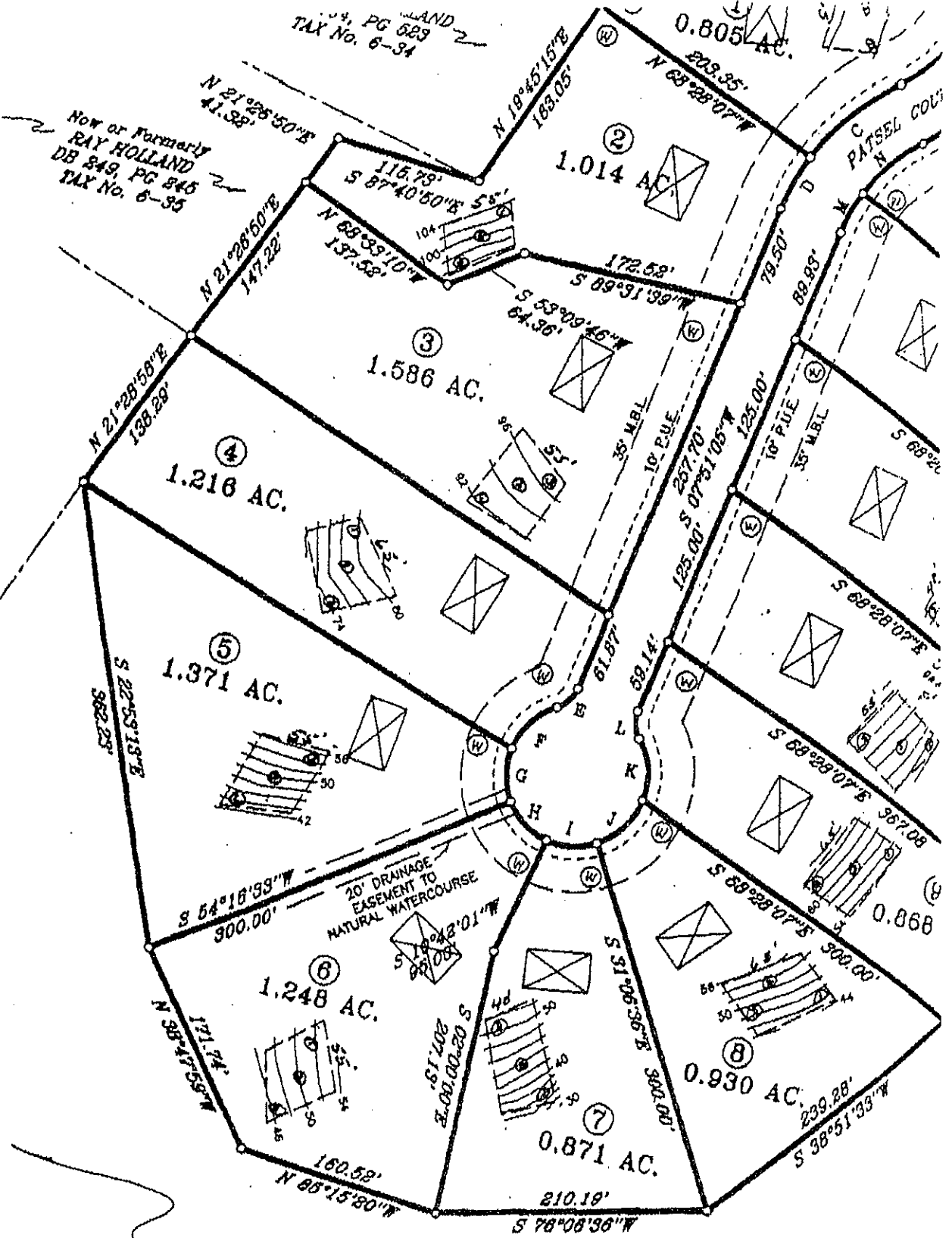
- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 320)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 40 Length of available area 40
- E. Width of trench 3'
- F. Number of trenches 8
- G. Center-to-center spacing 11
- H. Width required 80 Width of available area 80
($G(F-1) + E$)
- I. Total square footage required 960
(line B times line C)
- J. Square footage in design 960
($D \cdot E \cdot F$)
- K. Is a reserve area required? yes No

LAND
PG 683
TAX No. 6-34

Now or Formerly
RAY HOLLAND
DB 849, PG 846
TAX No. 6-35



REMAINING PROPERTY OF
PAUL E. CRAWFORD, SR.
SHARON P. CRAWFORD
PAUL E. CRAWFORD, JR.
DB 764, PG 140
TAX N-

Lot 5 Patsel Court

Septic Tank - Soil Absorption System Construction Permit

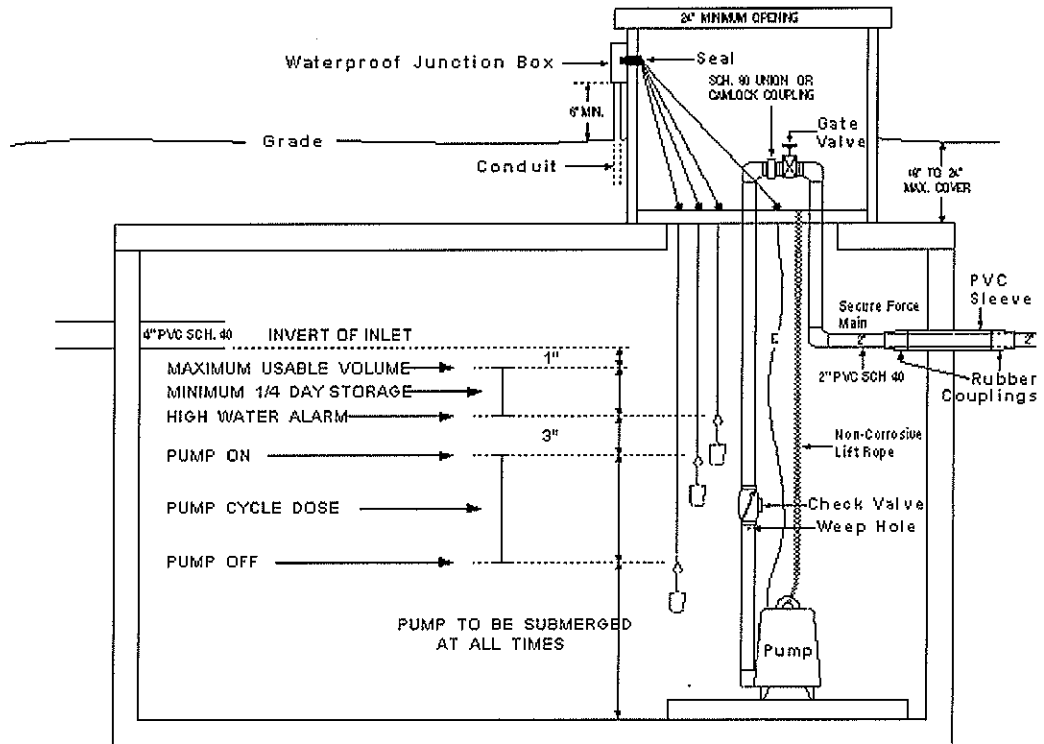
Health Department ID Number: 133 06 1104

Owner / Agent Information	
Owner: Wayne Ferguson 1704 Mayfield Dr Roanoke, Virginia 24014 Owner Phone: (540) 312-6249	
Location Information	
Subdivision: Oak Run , Lot 5 Property Address: Patsel Court Locality: Franklin Tax Map: 5.3-5 Directions: 122, L116, R-Coopers Cove Rd, R-Oak Run on Patsel Ct, to lot 5	
General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum
Sewer Line	
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	Distribution Box Information No. of Boxes: 1 No. of Outlets: 12
Conveyance Line / Force Main Information	
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 3" Minimum Slope: 6" per 100' (only for non-pump)	Header Line Information ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
Septic Tank - Inlet Outlet Structure	
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Percolation Lines and Absorption Area Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 11' Installation Depth: 42" Depth of Aggregate: 13", Size of Aggregate: 0.5-1.5" Total Number of Laterals: 6 Laterals to be 55' long, x 3' wide Install 990 Square Feet Total 0% Reserve Area Required for Future Repairs
Please Note: Divert roof drains and surface water from drainfield area. Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. Maintain 50' minimum from septic tank to all wells. Maintain 50' minimum from subsurface sewage disposal system to IIIB wells. Remove all maple trees and other hydrophyllic (water loving) plants from within 10' of drainfield area. See the Construction Drawing page for site sketch showing the system location. Water Supply = proposed IIIB well.	

Pump Specifications

Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons
	inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute

Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.
 Pump Must Provide Gallons per Minute at System Head.



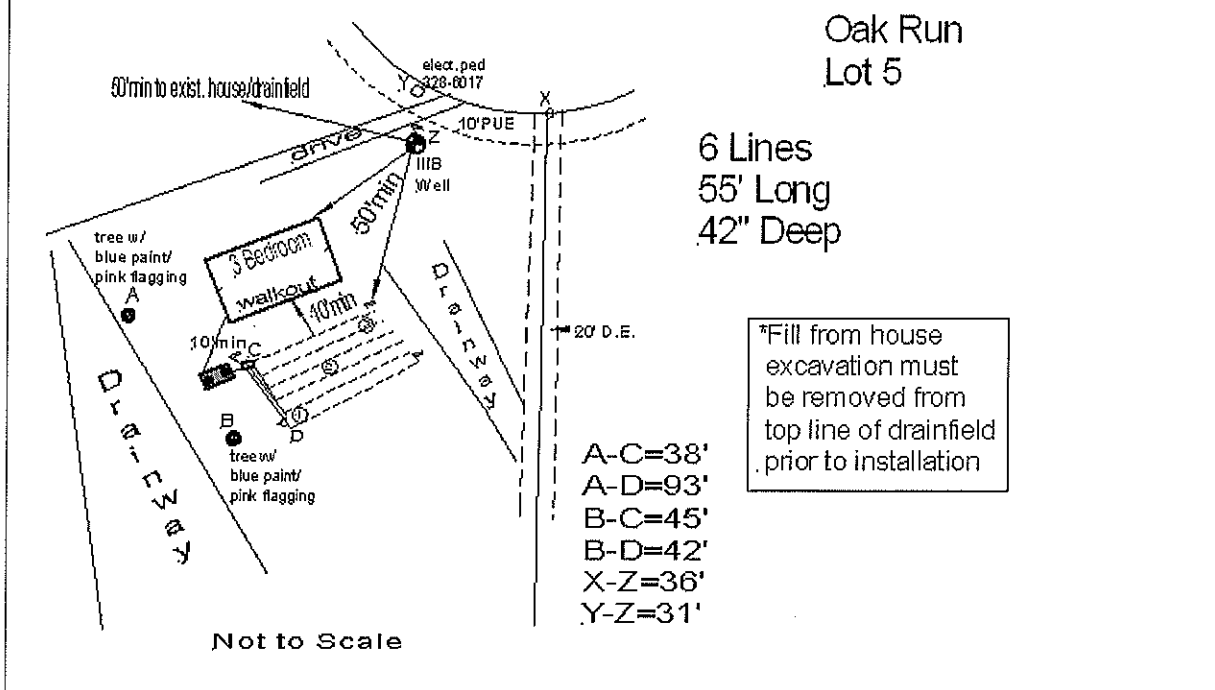
Owner Information

Wayne Ferguson
1704 Mayfield Dr
Roanoke, Virginia 24014

Phone: (540) 312-6249

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Rodney Hughes ; Site Evaluation By: Davis, Claude Franklin

Rodney Hughes

February 1, 2007
Issue Date

August 1, 2008
Expiration Date

Appendix 2
Soil Summary Report

GENERAL INFORMATION

Date 7/14/03 Submitted to Franklin County Health Department
 Applicant Paul Crawford Telephone No. 537-1307
 Address 1611 Norfolk Avenue Roanoke, Va 24101
 Owner Same Address _____
 Location _____
 Tax Map 5-3-1007 Subdivision Oak Run
 Block/Section _____ Lot 5

SOIL INFORMATION SUMMARY

1. Position in landscape satisfactory Yes No
 Describe side slope

2. Slope 23 %

3. Depth to rock or impervious strata: Max. _____ Min. _____ None

4. Depth to seasonal water table (gray mottling or gray color) No Yes _____ inches

5. Free water present No Yes _____ range in inches

6. Soil percolation rate estimated Yes No Texture group: I II III IV
 Estimated rate: 40-45 min/inch

7. Permeability test performed Yes No
 If yes, note type of test performed and attach

Site Approved: Drainfield to be placed at 42" depth at site designated on permit.

Site Disapproved:

Reason for rejection:

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock
- 3 Insufficient depth of suitable soil to seasonal water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or Reserve Area.
- 6 Proposed system too close to well.
- 7 Other Specify _____

(attach additional pages if necessary)

Profile Description
SOIL EVALUATION REPORT

Lot #5

See application sketch

See construction permit

X See attached

Hole #	Horizon	Depth (Inches)	Description of color, texture, etc.	Texture Group
1	A	0"-4"	Brown Loam	II
	Bt	4"-24"	Red Clay Loam	III
	C1	24"-54"	Reddish Brown Sandy Loam w/Many Fine Weathered Rock Fragments	II
	C2	54"-60"	Dark Brown Slightly Dense Sandy loam w/Many fine weathered Rock Fragments	II
2	A	0"-4"	Brown Loam	II
	C1	4"-18"	Reddish Brown Sandy loam w/Many Fine Weathered Rock Fragments	II
	C2	18"-60"	Brown Sandy Loam w/Many Fine Weathered Rock Fragments	II
3	A	0"-4"	Brown Loam	II
	C1	4"-42"	Brownish Red Slightly Dense Sandy Loam w/Many Fine Weathered Rock Fragments	II
	C2	42"-60"	Brown slightly Dense Sandy Loam w/ Many Fine Weathered Rock Fragments	II
Remarks:				

Appendix 6
Abbreviated Design Form

Lot # 5

For use with gravity and pump drainfields, enhanced flow systems and low pressure distribution systems when applying for a certification letter or subdivision approval.

Design Basis

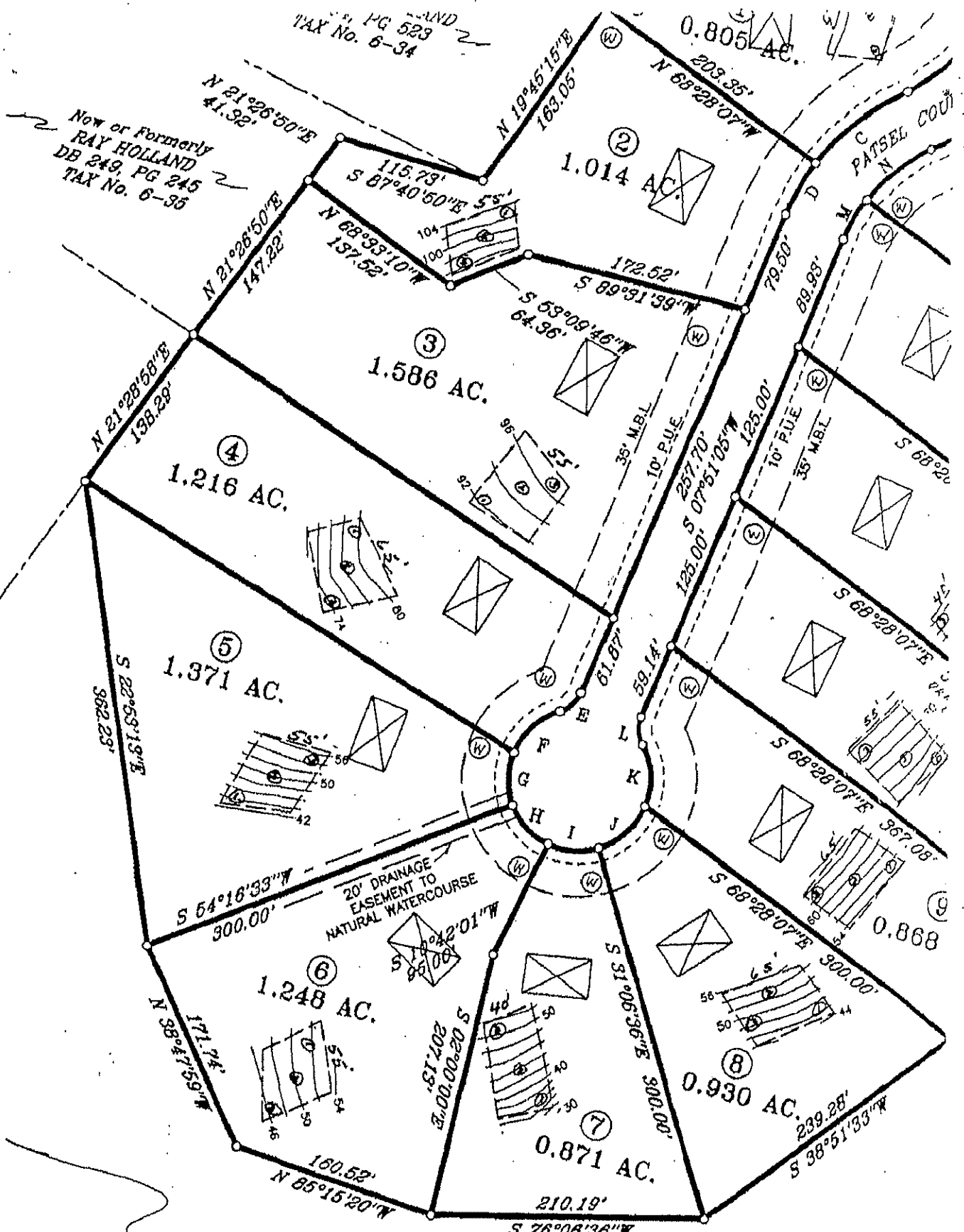
- A. Estimated Percolation Rate 40-45
- B. Trench bottom square feet required per bedroom (from Table 4.6 based on Gravity LPD 330)
- C. Number of bedrooms 3

Area Calculations

- D. Length of trench 55 Length of available area 55
- E. Width of trench 3'
- F. Number of trenches 6
- G. Center-to-center- spacing 11
- H. Width required 58 Width of available area 58
 $G(F-1) + E$
- I. Total square footage required 990
(line B times line C)
- J. Square footage in design 990
($D \cdot E \cdot F$)
- K. Is a reserve area required? yes No

AND
PG 523
TAX No. 6-34

Now or Formerly
RAY HOLLAND
DB 249, PG 245
TAX No. 6-35



REMAINING PROPERTY OF
PAUL E. CRANFORD, SR.
SHARON P. CRANFORD
PAUL E. CRANFORD, JR.
DB 764, PG 140
TAX N

2.20'
42'
95'
91'
7'

OR

Lot 14 Patsel Court

Sewage Disposal System Operation Permit

Property Owner

Carroll & Christoff Development LLC
2160 Industrial Dr
Salem, Virginia 24153
Phone: (540) 387-0128

Health Dept. ID: 133 07 0441

Tax Map: 5.3-14

Locality: Franklin

Property Location

Property Address: 35 Patsel Ct
Hardy, Virginia 24101
Subdivision: Oak Run , Lot 14
Directions: 40E, L122, L116, R681, R-Patsel Ct, 1st lot on L corner

=====

Carroll & Christoff Development LLC is hereby granted permission to operate a septic tank effluent and drainfield Sewage System at the above referenced location, having a design capacity of **450** gallons per day, or **3** bedrooms maximum.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and Section 12VAC 5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

May 8, 2008
Effective Date

John W. Walke
EHS

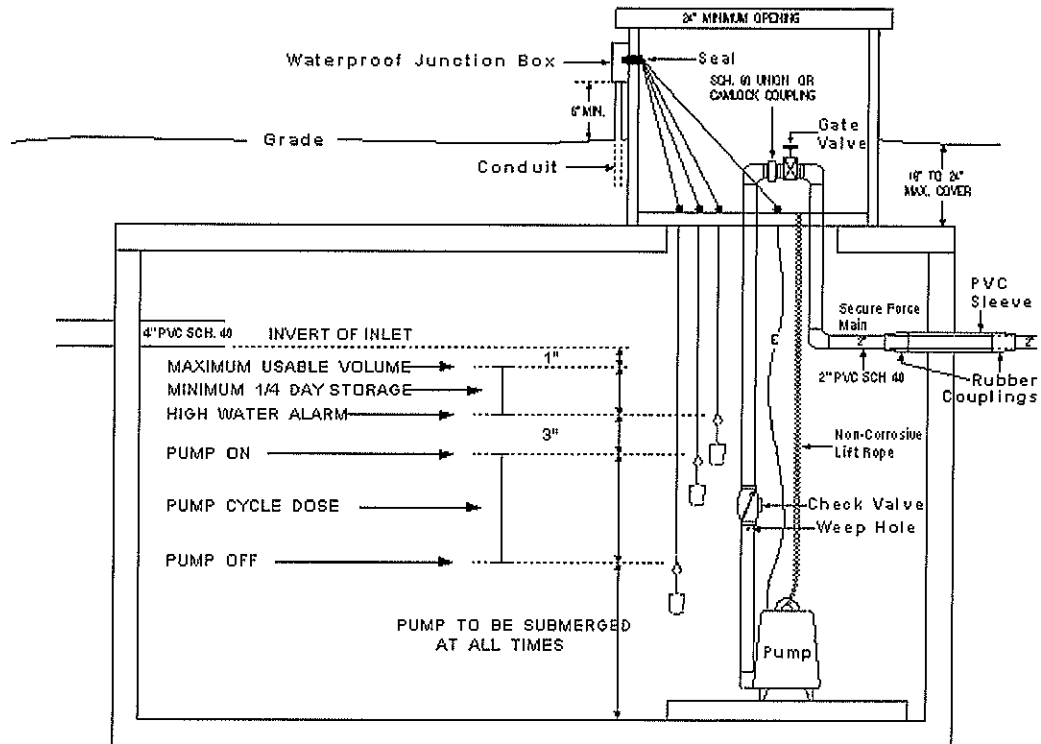
Signed May 8, 2008

Septic Tank - Soil Absorption System Construction Permit

Health Department ID Number: 133 07 0441

Owner / Agent Information	
Owner: Carroll & Christoff Development LLC 2160 Industrial Dr Salem, Virginia 24153 Owner Phone: (540) 387-0128	
Location Information	
Subdivision: Oak Run , Lot 14 Property Address: Patsel Ct Locality: Franklin	Tax Map: 5.3-14
Directions: 40E, L122, L116, R681, R-Patsel Ct, 1st lot on L corner	
General Information	
System Type: septic tank effluent and drainfield Type of Property: Residential	Daily Flow: 450 gallons Number of Bedrooms: 3 maximum
Sewer Line	
3" or 4" Sch. 40 PVC or equivalent (cleanouts required at 50' to 60' intervals)	Distribution Box Information
	No. of Boxes: 1 No. of Outlets: 10
Conveyance Line / Force Main Information	
Method: Gravity Distribution Box Material: Minimum crush strength 1500# Pipe Diameter: 3" Minimum Slope: 6" per 100' (only for non-pump)	Header Line Information
	ASTM F405 pipe or better (1500 # crush or equivalent) Minimum slope 2" per 100'
Septic Tank - Inlet Outlet Structure	
Capacity: 1000 gallons The inlet structure shall be 1-2 inches higher than the outlet structure and shall extend 6-8 inches below and 8-10 inches above the normal liquid level. The outlet structure shall extend 35-40% below the normal liquid level and 8-10 inches above the normal liquid level. To comply with the maintenance requirements of 12 VAC 5-610-817 the septic tank must be provided with one of the following three options: 1) Inspection port, 2) Effluent filter, 3) Reduced maintenance tank	Percolation Lines and Absorption Area
	Slope: 2-4" per 100' Percolation Lines: 4" diameter Center to Center Spacing: 11' Installation Depth: 48" Depth of Aggregate: 13". Size of Aggregate: 0.5-1.5" Total Number of Laterals: 5 Laterals to be 70' long, x 3' wide Install 1050 Square Feet Total 0% Reserve Area Required for Future Repairs
Please Note: Divert roof drains and surface water from drainfield area. Drainfield shall be 5' minimum from property boundaries, 10' minimum from building foundations, and 20' minimum from below grade basements. Maintain 50' minimum from septic tank to all wells. Maintain 50' minimum from subsurface sewage disposal system to IIIB wells. See the Construction Drawing page for site sketch showing the system location. The flood level of all plumbing fixtures must be higher than finished grade over drainfield or a pump will be required. This permit is null and void if the house location is changed and interferes with the approved sewage disposal system area. Water Supply = proposed IIIB well.	

Pump Specifications	
Pump Chamber Size:	gallons
Drawdown (Each Pump Cycle):	gallons inches
1/4 Day Storage:	gallons
Maximum Pump Cycle Time	mins., secs.
Minimum Pump Capacity:	GPM
Minimum Pump Cycle Time	mins., secs.
Maximum Pump Capacity:	GPM
Static Head:	feet
Friction Head:	feet at gallons/minute
Total Dynamic Head:	feet at gallons/minute
Force Main Shall be SCH. 40 PVC Pressure Pipe with Pressure Fittings.	
Pump Must Provide Gallons per Minute at System Head.	



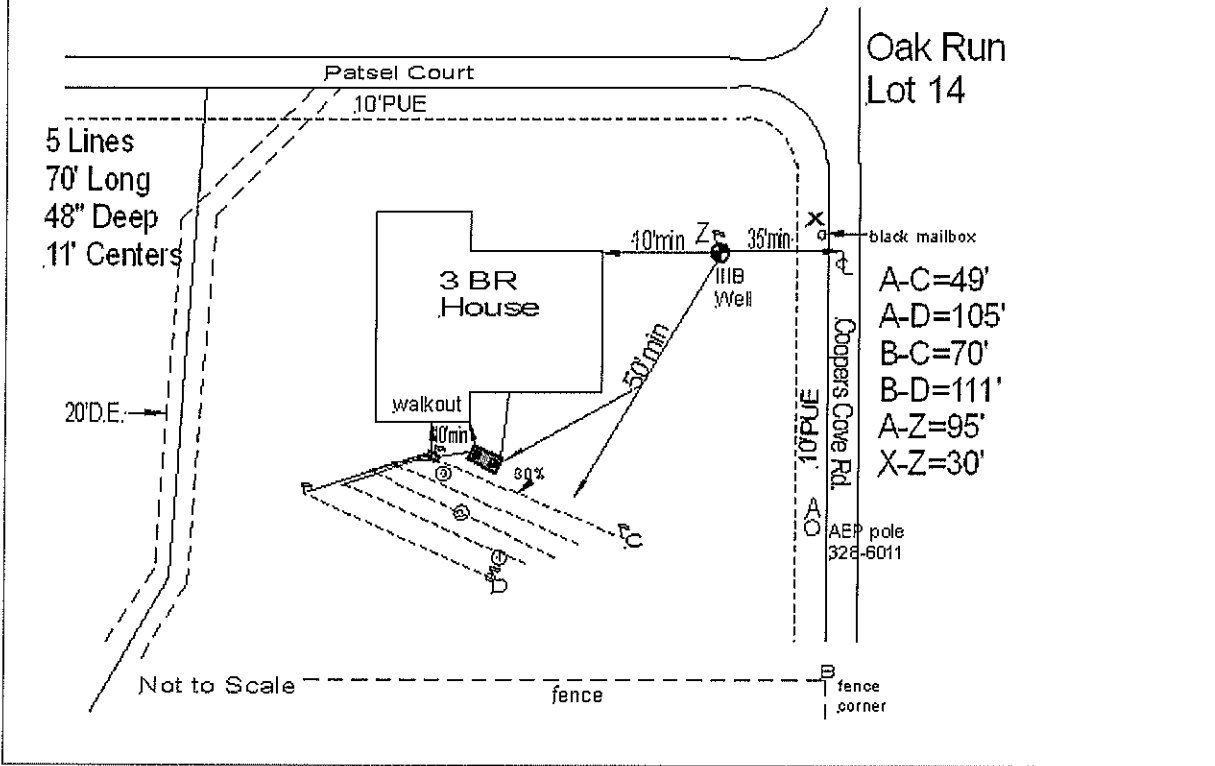
Owner Information

Carroll & Christoff Development LLC
 2160 Industrial Dr
 Salem, Virginia 24153

Phone: (540) 387-0128

Construction Drawing

Schematic drawing of sewage disposal system and topographic features.



This sewage disposal system construction permit is null and void if conditions are changed from those shown on the application or construction permit. No part of any installation may be covered or used until inspected, corrections made if necessary and the system is approved. The inspection will normally be made by the system designer, who may be an AOSE, PE, or EHS. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon direction of the Department or the system designer.

System Design By: Rodney Hughes, AOSE; Davis, Claude Franklin; Site Evaluation By: Davis, Claude Franklin

Rodney Hughes

June 12, 2007
 Issue Date

December 12, 2008
 Expiration Date



ENVIRONMENTAL DIRECTIONS, INC.
 2727 PLANTATION ROAD, NE
 ROANOKE, VA 24012
 PHONE: 540-362-5636, FAX: 540-362-9447

EDI LAB NO: BCX37

To: BROWN EXTERMINATING COMPANY
 P. O. BOX 5515
 ROANOKE, VA 24012

FAX: 265-1096
 PHONE: 265-1500

PROJECT: 35 Patsel Ct.
 FAX TO: 563-0987 & 265-1096 (Please fax to both)
 MATRIX: WELL or SPRING (circle one) EXISTING WELL: YES or NO (circle one)
 SAMPLE LOCATION ADDRESS: 35 Patsel Ct.
 CITY, STATE: Hardy
 SAMPLE COLLECTION DATE: 4/10/08
 SAMPLE COLLECTED BY: Glenn Ward TIME: 1:30
 SAMPLE RELINQUISHED BY: Glenn Ward
 RECEIVED AT LABORATORY BY: Janet Mph 4-10-08 4:4
Signature Date/Time

LABORATORY RESULTS

TOTAL COLIFORM/METHOD 9223 AFTER 24 HOURS PRESENT ABSEN
 E. COLI/METHOD 9223 AFTER 24 HOURS PRESENT ABSEN
 Analyst: Janet Mph Date: 4-11-08
 Test Meets MCLG Standards recommended by EPA for drinking water.

TOTAL LEAD METHOD 200.7 (MCL = Zero, Action Level = 0.015ppm) ND
 Analyst: _____ Date: _____

NITRATE/NITRITE METHOD 353.2 (MCL = 10ppm) ND
 NITRATE METHOD 353.2 (MCL = 10ppm) ND
 NITRITE METHOD 353.2 (MCL = 1ppm) ND
 Analyst: _____ Date: _____

MARK OUT ANY TESTS NOT PERFORMED

ND = Non Detect

Att. June (like the month)

#133070441

(Doniel - 309-6042)

Commonwealth of Virginia Uniform Water Well Completion Report

Owner: Carroll Christoff Dev, LLC
 Address: _____
 Phone: _____
 Location: _____

Tax Map ID 133-07-0441
 VDH Permit _____
 WVCB Permit _____
 WVCB ID _____
 County FRANKLIN

* Well Data *

General Information Drilling Method <u>Air</u> Depth to Bedrock <u>75 ft.</u> Static Water Level <u>60 ft. from top</u> Well Disinfected (Y or N) _____	Date Completed <u>9/27/07</u> Yield <u>5</u> (GMP) Stabilized Water Level _____ Disinfectant Used _____	Total Depth of Well <u>340 ft.</u> Length of Test <u>30 minutes</u> Natural Flow (Rate) <u>5 gpm</u> Amount Used _____
Casing From <u>Top</u> To <u>75 ft.</u> Size <u>6 1/2"</u> Material <u>PLASTIC</u> Weight/Schedule <u>40</u>	From _____ To _____ Size _____ Material _____ Weight/Schedule _____	From _____ To _____ Size _____ Material _____ Weight/Schedule _____
Gravel Pack From <u>ND</u> To _____	From _____ To _____	From _____ To _____
Grout From <u>Top</u> To <u>75 ft.</u> Bore Hole Size <u>1 1/2"</u> Type <u>benzene</u> Method <u>pumped</u>	From _____ To _____ Bore Hole Size _____ Type _____ Method _____	From _____ To _____ Bore Hole Size _____ Type _____ Method _____
Water Zones or Screened Intervals From <u>60 ft.</u> To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____	From _____ To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____	From _____ To _____ Mesh Size _____ Diam _____ From _____ To _____ Mesh Size _____ Diam _____

* Use Data *

Private Well: _____
 Public Well: _____

Domestic Agricultural _____ Industrial _____ Monitoring _____
 Community _____ Non-community _____

* Abandonment Information *

Bored or Dug Wells Casing Removed, Y or N? _____ If Y, Depth to which casing was removed: _____ Depth and Type of Fill: _____ Source of Fill _____ Bentonite Plugs: From _____ to _____ From _____ to _____ Method of permanently marking location: _____	Wells other than Bored Wells Casing removed, Y or N? _____ Depth to which casing was removed: _____ Applicable, depth(s), and type of gravel/sand fill: _____ Source of gravel or sand: _____ Cement: From _____ to _____ From _____ to _____
--	---

* Drillers Log *

Depth	Description of Formation or Sediment	Remarks
Top to 75ft.	Clay and Sandstone	
75ft. to 340ft.	Limestone and Granite	

(Use Additional Sheets if necessary)

I certify that the information contained here is true and that this well was installed and constructed in accordance with the permit and further that the well complies with all applicable state and local regulations, ordinances and laws.

Name Southern Well Drilling Inc
Address 836 Greenway Rd
Glade Hill Va. 29092
Phone 483-7345

Drillers Signature Norman E. Huff
Date 10/15/07 Representing Southern Well Drilling Inc.

115184

SETEC

SOIL AND ENVIRONMENTAL TECHNOLOGY, INC
111 N. Franklin Street, Christiansburg, VA 24073
Phone: 540-381-0309

COMPLETION STATEMENT

Health Department ID#: 133-07-0170

Owner: TERRY FRALIN

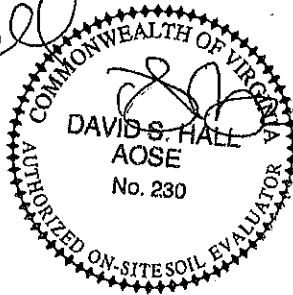
This is to certify that the on-site sewage system was inspected and was found to be in compliance with the permit and with Part D of the Sewage Handling and Disposal Regulations.

Signed:



AOSE #230

Date: 7/24/07



RECEIVED JUL 25 2007

SEWAGE DISPOSAL SYSTEM CONSTRUCTION SPECIFICATIONS

GENERAL INFORMATION

New: X Repair: Expanded:
 Owner: Terry Fralin Telephone: 576-3026
 Address: 515 Dove Rd., Union Hall, VA 24176

For a Type I Sewage Disposal System to be constructed on / at:

Subdivision: David Estate Lot: 2

Actual or estimated water use: 450 GPD (3 BR)

DESIGN

	NOTES
Water Supply, (describe) Private Well To be installed: Class: 3C Cased: 20 ft. Grouted: 20 ft.	OK
Building Sewer: 4" ID PVC 40, or equivalent. Slope 1.25" per 10' (minimum) Other:	OK
Septic Tank: capacity—1000 gals. (minimum) w/inspection port, outlet filter, or manhole Inlet-Outlet structure: PVC 40, 4" tees, or equivalent. Other:	OK OK
Secondary or Advanced Secondary Pretreatment Unit: No: X Yes: If yes, which one and how many units:	N/A
Pump and/or Pump station: No: X Yes: (See attached sheets for pump design & charts)	N/A
Gravity main: 3"(min.), 1500 lb. crush strength or equivalent, minimum 6" fall per 100'. Other:	OK
Distribution Box: Precast concrete, or equivalent, with a minimum of 7 ports. Other:	OK
Header Lines: Material: 4" ID 1500 lb. crush strength plastic, or equivalent, from distribution box into absorption trench. Slope 2" minimum. Other:	OK
Percolation Lines: Gravity: 4" plastic 1000 lb./ft bearing load, or equivalent, slope 2" - 4" (min - max) per 100'. Other:	OK
Absorption Trenches: Square ft. required: 1050 Trench width: 3' Trench length: 70' Number of trenches: 5 Depth from ground surface to bottom of the ditch: 56" Centers: 11'-D box side; 9' non D box side Depth of aggregate: 13"	OK

Inspected by: *[Signature]*
 DAVID HALL

Date: 7/23/07

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Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133-07-0170

Name of Company/Corporation/Individual: RA WINGFIELD Health Department

Address: _____ Telephone: 274 638 7602

Owner's Name _____

Owner's Address _____

Location of Installation: Lot 2 Block _____

Section: _____ Subdivision: DAVID ESTATE

Other: ROCK C&P RD

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 5/5/07 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

7/23/07

Date

RA Wingfield
Signature and Title

Completion Statement

Commonwealth of Virginia
State Department of Health

Health Department
Identification Number 133-07-0441

Franklin Co. Health Department

Name of Company/Corporation/Individual: James Barlow Excav.

Address: _____ Telephone: 540-353-1470

Owner's Name Carroll & Christoff Development LLC

Owner's Address 2160 Industrial Dr., Salem, VA 24153

Location of Installation: Lot 14 Block _____

Section: _____ Subdivision: Oak Run

Other: Patsel Ct

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) 6/12/07 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

6/27/07
Date

John Barlow
Signature and Title



CR011 & CR15 DTT 0-0-4

STATE OF VIRGINIA
WARRANTY, NOTICE OF SUBSTITUTION and WAIVER OF LIABILITY (AOSE)

County/City of Franklin Sewage Disposal System Construction Permit ID # 133-07-0441
Tax Map # 5-2-14 Date: 6-27-07
Owner: Carrail Const.

LIMITED FIVE YEAR WARRANTY

- a) RING Industrial Group, LP, warrants that the EZflow™ EPS Aggregate System manufactured by RING Industrial Group, LP, when installed and operated in accordance with the manufacturer's instructions and the current Virginia Department of Health GMP #116, Use of Gravelless Systems Manufacturer's Specifications, and pursuant to all necessary building permits, are warranted for a period of five (5) years from the date of installation (i) to be free from defective materials and workmanship; and (ii) to perform in accordance with the state performance requirements in effect on the date of installation. This warranty extends only to the property owner. For purposes of this warranty, the EZflow™ EPS Aggregate System must be installed in accordance with all site conditions specified in the Local Health Department Construction Permit and sized according to the Company's specification.

- b) System failures determined to be due to improper siting, excessive water usage, improper grease disposal, improper installation, improper operation, or improper maintenance are not part of this warranty.

Upon notification of a system failure, the Company may, at its option, perform or have performed certain tests to determine the cause of failure. A registered soil scientist or professional engineer may be used to evaluate the soil conditions and compare those conditions with any original evaluation, which may appear on the permit.

In order to exercise these warranty rights, the property owner must notify the Company in writing at its corporate headquarters within 15 days of discovery of the alleged defect. The notice shall be accompanied by (i) a copy of the warranty which is signed and dated by the installer and the property owner as set forth below, (ii) a copy of the appropriate permit for the septic system; and (iii) proof to the Company's satisfaction that the septic tank has been maintained in accordance with the Company's operating instructions. In the event of breach of warranty due to a failure of the trench, the Company will provide and install EZflow™ EPS Aggregate System units as necessary to extend the size of the trench to provide a fully functional wastewater system. The Company will not be responsible for pumps and any other necessary mechanical devices needed to extend the trench.

- c) THE WARRANTY IN SUBPARAGRAPH (a) AND THE REMEDIES IN SUBPARAGRAPH (b) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES. ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE SHALL NOT EXTEND BEYOND THE PERIOD IN SUBPARAGRAPH (a). THE WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES. THE COMPANY SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, LOSS OF PRODUCTION AND PROFITS, LABOR AND MATERIALS, ACCIDENT COSTS, OR OTHER LOSS OR EXPENSE. SPECIFICALLY EXCLUDED ARE DAMAGE DUE TO ORDINARY WEAR AND TEAR, ALTERATION, MISUSE, ABUSE, OR NEGLIGENCE; THE UNITS BEING SUBJECTED TO STRESSES OR VEHICLE TRAFFIC GREATER THAN THOSE PRESCRIBED IN THE INSTALLATION INSTRUCTIONS OR OPERATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE OPERATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE SYSTEM; OR ANY OTHER EVENT NOT CAUSED BY THE COMPANY. THIS WARRANTY SHALL BE VOID IF THE PROPERTY OWNER FAILS TO COMPLY WITH ALL OF THE TERMS SET FORTH IN SUBPARAGRAPH (b).

FURTHERMORE, IN NO EVENT SHALL THE COMPANY BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO THE PROPERTY OWNER, THE UNITS OR ANY THIRD PARTY RESULTING FROM THE INSTALLATION OR SHIPMENT OF THE UNITS, OR FROM ANY PRODUCT LIABILITY CLAIMS OF THE ORIGINAL PROPERTY OWNER OR ANY THIRD PARTY. THE COMPANY SHALL NOT BE RESPONSIBLE FOR ENSURING THAT INSTALLATION OF THE SYSTEM IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, RULES, AND REGULATIONS.

- d) No representative of the Company has the authority to change this warranty in any manner whatsoever, or to extend this warranty. No warranty applies to any party other than to the property owner.

NOTICE OF SUBSTITUTION
(WHERE AN AOSE OR PE SPECIFIES A SUBSTITUTED SYSTEM)

This is to notify the Virginia Department of Health ("VDH") that an EZflow™ EPS Aggregate System -- MODEL 12.03.17 ("Substituted System") will be substituted for a gravel-type drainfield system.

I understand that the Substituted System is not the system that would be designed by the Franklin County/City Health Department. The Substituted System, however, is authorized for use in the Commonwealth of Virginia pursuant to VDH's Guidance Memorandum and Policy (GMP) #116. I further understand that the Substituted System is covered by a manufacturer's warranty and that such a warranty is not available for the system that would be prescribed by VDH.

I understand that, regardless of whether the Substituted System or the gravel-type drainfield system is installed, the Commonwealth of Virginia requires that the owner maintain and preserve the entire approved absorption area (including reserve area where applicable) that was required by the permit. This condition is intended to assure that any absorption area that is not used will be available in the future should it become necessary to repair or replace the System. I hereby agree that I will maintain and preserve the entire absorption area as required.

WAIVER

As OWNER of the property described above and subject to the exception described below, I hereby release and agree to hold harmless the Virginia Department of Health and the Commonwealth of Virginia, including, without limitation, any and all of its agencies, boards, and commissions, their insurer(s), officers, directors, employees, representatives, and agents (hereafter referred to as the "COMMONWEALTH OF VIRGINIA"), from any and all claims, complaints, demands, actions, causes of action, liabilities and obligations, of whatever source or nature, whether administrative, legal or equitable, whether known or unknown, which the OWNER now has or has in the future relating to or arising out of the installation of the Substituted System including, without limitation, any and all claims due to the failure of any person to comply with federal, state, or local laws or regulations, claims under the Virginia Tort Claims Act, the Virginia Constitution, the United States Constitution and amendments thereto, or under common law.

I understand that the COMMONWEALTH OF VIRGINIA does not warrant in any way the performance of any System and that the manufacturer's warranty is the sole remedy available to me with respect to any performance deficiency associated with a Substituted System. Furthermore, I agree to first seek and exhaust any and all remedies under the manufacturer's warranty before applying for indemnification under the Onsite Sewage Indemnification Fund.

EXCEPTION--Onsite Sewage Indemnification Fund: I do not release the COMMONWEALTH OF VIRGINIA from any liabilities, claims, or causes of action provided under §32.1-164.1:01 of the Code of Virginia (Onsite Sewage Indemnification Fund). I acknowledge and affirm that the Onsite Sewage Indemnification Fund shall be the sole remedy for failure of the Substituted System where such failure results from negligence on the part of VDH. I also acknowledge and affirm that the Virginia Department of Health's authorization of the Substituted System pursuant to GMP #116 shall not constitute an act of negligence pursuant to §32.1-164.1:01 of the Code of Virginia.

This agreement shall be binding upon all subsequent owners of this property including any and all HEIRS, SUCCESSORS, and ASSIGNS.

ACKNOWLEDGEMENT

I acknowledge that I have read this WARRANTY, NOTICE OF SUBSTITUTION, and WAIVER and that I understand their terms. I also understand that there is no warranty if I do not comply with all of the above steps or if the system is not installed or maintained properly. I acknowledge to the Company that this warranty is part of my original agreement to purchase the septic system and that the warranty and its limitations were provided to me at the time of purchase.

Oak Run 35 PATSEL COURT Address of Installation (Street)
HOODY VA 24101 (City)
OAK RUN (Subdivision Name) 14 (Lot #)

CORROLL CHRISTOFF DEVELOPMENT Name of Property Owner (print)
7160 INDUSTRIAL DR SALEM VA Address of Property Owner
[Signature] Property Owner Signature 7-23-7 Date

I acknowledge to the Company and the homeowner that the septic system and the EZflow™ EPS Aggregate System units have been installed in accordance with GMP #116, the installation instructions of the Company and in accordance with all state trench requirements and other applicable laws.

James Barlow Excavating LLC Business Name of Installer Name (print)
3665 Providence Church Rd. Address of Installer (Street/P.O. Box) VA (State) 24102 (Zip)
540-353-4470 Phone James Barlow Signature Date 6-27-07

This warranty is provided in triplicate. One copy shall go to RING Industrial Group, one to the local health department, and one to the system owner.
Write: RING Industrial Group, LP, 65 Industrial Park, Oakland, TN 38060 (800) 649-0253 1048-082505

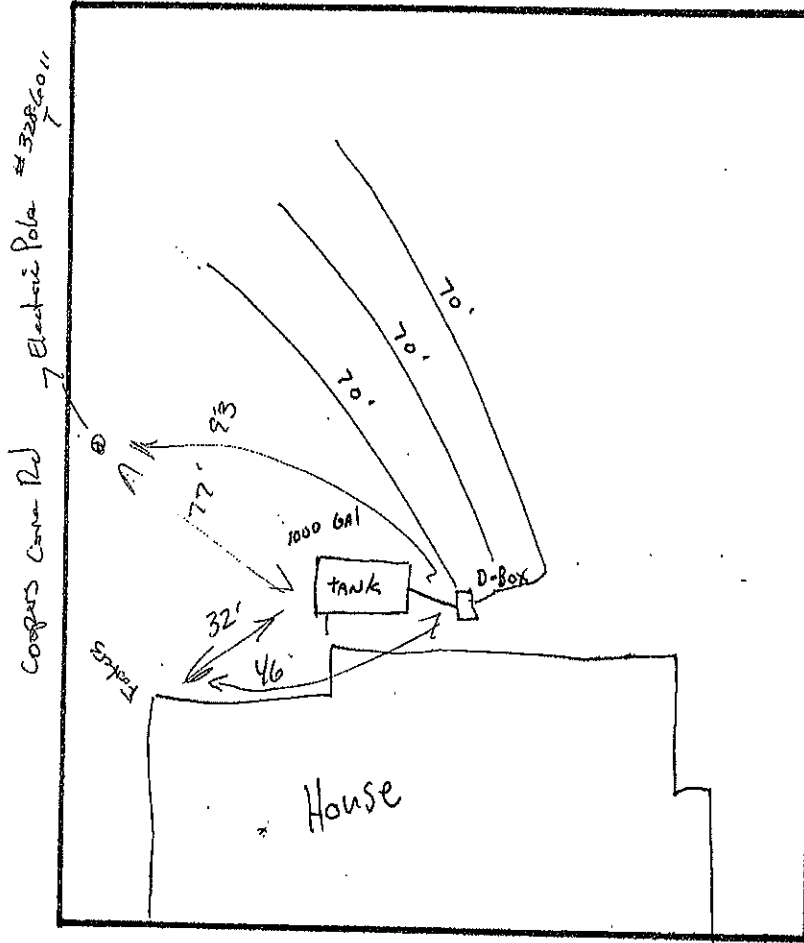
RECEIVED JUL 25 2007



For all your dewatering needs.

EZflow LP

65 Industrial Park Dr • Oakland, TN 38060



Phase 1/2



Appendix E

Laboratory Analytical Report (11/30/2023)



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 23L0004

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Date Received: December 1, 2023 9:00

Date Issued: December 6, 2023 15:35

Project Number: [none]

Purchase Order: 4260155-001

Enclosed are the results of analyses for samples received by the laboratory on 12/01/2023 09:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





1941 Reymet Road • Richmond, Virginia 23230 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:31	12/01/23 15:31	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:31	12/01/23 15:31	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB



1941 Reymet Road • Richmond, Virginia 23230 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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Date Issued: December 06, 2023 15:35
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Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:31	12/01/23 15:31	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:31	12/01/23 15:31	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/01/23 15:31	12/01/23 15:31	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:31	12/01/23 15:31	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/01/23 15:31	12/01/23 15:31	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel	Laboratory Sample ID: 23L0004-01
Grab Date/Time: 11/30/2023 11:40	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:31	12/01/23 15:31	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:31	12/01/23 15:31	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:31	12/01/23 15:31	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/01/23 15:31	12/01/23 15:31	RJB
<hr/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	93.6 %		70-120		12/01/23 15:31	12/01/23 15:31	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	97.4 %		75-120		12/01/23 15:31	12/01/23 15:31	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	89.1 %		70-130		12/01/23 15:31	12/01/23 15:31	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	99.3 %		70-130		12/01/23 15:31	12/01/23 15:31	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 01:46	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 01:46	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/04/23 09:00	12/05/23 01:46	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L	C	10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 01:46	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 76 Pastel Laboratory Sample ID: 23L0004-01
 Grab Date/Time: 11/30/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 01:46	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 01:46	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	86.5 %		5-136		12/04/23 09:00	12/05/23 01:46	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	77.2 %		9-117		12/04/23 09:00	12/05/23 01:46	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	36.2 %		5-60		12/04/23 09:00	12/05/23 01:46	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	78.7 %		5-151		12/04/23 09:00	12/05/23 01:46	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	31.1 %		5-60		12/04/23 09:00	12/05/23 01:46	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	80.4 %		5-141		12/04/23 09:00	12/05/23 01:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel Laboratory Sample ID: 23L0004-02
 Grab Date/Time: 11/30/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:53	12/01/23 15:53	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:53	12/01/23 15:53	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel Laboratory Sample ID: 23L0004-02
 Grab Date/Time: 11/30/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:53	12/01/23 15:53	RJB
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:53	12/01/23 15:53	RJB
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	12/01/23 15:53	12/01/23 15:53	RJB
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:53	12/01/23 15:53	RJB
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	12/01/23 15:53	12/01/23 15:53	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel	Laboratory Sample ID: 23L0004-02
Grab Date/Time: 11/30/2023 12:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	19.8 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/01/23 15:53	12/01/23 15:53	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/01/23 15:53	12/01/23 15:53	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/01/23 15:53	12/01/23 15:53	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	92.8 %		70-120		12/01/23 15:53	12/01/23 15:53	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	97.9 %		75-120		12/01/23 15:53	12/01/23 15:53	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	88.7 %		70-130		12/01/23 15:53	12/01/23 15:53	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	96.8 %		70-130		12/01/23 15:53	12/01/23 15:53	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel	Laboratory Sample ID: 23L0004-02
Grab Date/Time: 11/30/2023 12:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 02:16	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel Laboratory Sample ID: 23L0004-02
 Grab Date/Time: 11/30/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel Laboratory Sample ID: 23L0004-02
 Grab Date/Time: 11/30/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:16	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	12/04/23 09:00	12/05/23 02:16	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L	C	10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:16	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 60 Pastel Laboratory Sample ID: 23L0004-02
 Grab Date/Time: 11/30/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 02:16	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:16	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	97.6 %		5-136		12/04/23 09:00	12/05/23 02:16	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	82.5 %		9-117		12/04/23 09:00	12/05/23 02:16	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	32.7 %		5-60		12/04/23 09:00	12/05/23 02:16	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	76.5 %		5-151		12/04/23 09:00	12/05/23 02:16	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	31.1 %		5-60		12/04/23 09:00	12/05/23 02:16	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	102 %		5-141		12/04/23 09:00	12/05/23 02:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel Laboratory Sample ID: 23L0004-03
 Grab Date/Time: 11/30/2023 12:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	12/01/23 16:38	12/01/23 16:38	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/01/23 16:38	12/01/23 16:38	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel Laboratory Sample ID: 23L0004-03
 Grab Date/Time: 11/30/2023 12:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	12/01/23 16:38	12/01/23 16:38	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	12/01/23 16:38	12/01/23 16:38	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	12/01/23 16:38	12/01/23 16:38	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	12/01/23 16:38	12/01/23 16:38	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	12/01/23 16:38	12/01/23 16:38	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel Laboratory Sample ID: 23L0004-03
 Grab Date/Time: 11/30/2023 12:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	6.81 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	12/01/23 16:38	12/01/23 16:38	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	12/01/23 16:38	12/01/23 16:38	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	12/01/23 16:38	12/01/23 16:38	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	93.1 %		70-120		12/01/23 16:38	12/01/23 16:38	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	98.8 %		75-120		12/01/23 16:38	12/01/23 16:38	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	89.3 %		70-130		12/01/23 16:38	12/01/23 16:38	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	99.1 %		70-130		12/01/23 16:38	12/01/23 16:38	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel	Laboratory Sample ID: 23L0004-03
Grab Date/Time: 11/30/2023 12:20	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1,2-Dichlorobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1,2-Diphenylhydrazine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1,3-Dichlorobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1,3-Dinitrobenzene	03	SW8270E	<2.53 ug/L		2.53	1	12/05/23 09:00	12/05/23 18:10	BMS
1,4-Dichlorobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
1-Naphthylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4,5-Trichlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4,6-Trichlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4-Dichlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4-Dimethylphenol	03	SW8270E	<5.05 ug/L		5.05	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4-Dinitrophenol	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
2,4-Dinitrotoluene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,6-Dichlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,6-Dinitrotoluene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Chloronaphthalene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Chlorophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Methylnaphthalene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Naphthylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Nitroaniline	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
2-Nitrophenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
3-Methylcholanthrene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
3-Nitroaniline	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 06, 2023 15:35
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel

Laboratory Sample ID: 23L0004-03

Grab Date/Time: 11/30/2023 12:20

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Aminobiphenyl	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Chloroaniline	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Nitroaniline	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
4-Nitrophenol	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Acenaphthene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Acenaphthylene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Acetophenone	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
Aniline	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
Anthracene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzidine	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzo (a) anthracene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzo (a) pyrene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzo (b) fluoranthene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzo (g,h,i) perylene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzo (k) fluoranthene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzoic acid	03	SW8270E	<50.5 ug/L		50.5	1	12/05/23 09:00	12/05/23 18:10	BMS
Benzyl alcohol	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel	Laboratory Sample ID: 23L0004-03
Grab Date/Time: 11/30/2023 12:20	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Chrysene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Dibenz (a,h) anthracene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Dibenz (a,j) acridine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Dibenzofuran	03	SW8270E	<5.05 ug/L		5.05	1	12/05/23 09:00	12/05/23 18:10	BMS
Diethyl phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Dimethyl phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Di-n-butyl phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Di-n-octyl phthalate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Diphenylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Ethyl methanesulfonate	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
Fluoranthene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Fluorene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Hexachlorobenzene	03	SW8270E	<1.01 ug/L		1.01	1	12/05/23 09:00	12/05/23 18:10	BMS
Hexachlorobutadiene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Hexachlorocyclopentadiene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Hexachloroethane	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Isophorone	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
m+p-Cresols	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Methyl methanesulfonate	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Naphthalene	03	SW8270E	<5.05 ug/L		5.05	1	12/05/23 09:00	12/05/23 18:10	BMS
Nitrobenzene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
n-Nitrosodimethylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 35 Pastel Laboratory Sample ID: 23L0004-03
 Grab Date/Time: 11/30/2023 12:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
n-Nitrosopiperidine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
o+m+p-Cresols	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
o-Cresol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<2.53 ug/L		2.53	1	12/05/23 09:00	12/05/23 18:10	BMS
p-Chloro-m-cresol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Pentachlorophenol	03	SW8270E	<20.2 ug/L		20.2	1	12/05/23 09:00	12/05/23 18:10	BMS
Phenacetin	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Phenanthrene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Phenol	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Pronamide	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Pyrene	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Pyridine	03	SW8270E	<10.1 ug/L		10.1	1	12/05/23 09:00	12/05/23 18:10	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	80.3 %		5-136		12/05/23 09:00	12/05/23 18:10	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	72.0 %		9-117		12/05/23 09:00	12/05/23 18:10	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	48.9 %		5-60		12/05/23 09:00	12/05/23 18:10	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	77.0 %		5-151		12/05/23 09:00	12/05/23 18:10	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	29.2 %		5-60		12/05/23 09:00	12/05/23 18:10	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	68.1 %		5-141		12/05/23 09:00	12/05/23 18:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel Laboratory Sample ID: 23L0004-04
 Grab Date/Time: 11/30/2023 13:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:00	12/01/23 17:00	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:00	12/01/23 17:00	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel	Laboratory Sample ID: 23L0004-04
Grab Date/Time: 11/30/2023 13:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Acetone	04	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:00	12/01/23 17:00	RJB
Benzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Bromobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Bromochloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Bromodichloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
Bromoform	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Bromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Carbon disulfide	04	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:00	12/01/23 17:00	RJB
Carbon tetrachloride	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Chlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Chloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Chloroform	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
Chloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Dibromochloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
Dibromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Ethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L		0.80	1	12/01/23 17:00	12/01/23 17:00	RJB
Iodomethane	04	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:00	12/01/23 17:00	RJB
Isopropylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
m+p-Xylenes	04	SW8260D	<2.00 ug/L		2.00	1	12/01/23 17:00	12/01/23 17:00	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel	Laboratory Sample ID: 23L0004-04
Grab Date/Time: 11/30/2023 13:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	04	SW8260D	<4.00 ug/L		4.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	19.3 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Naphthalene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
o-Xylene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Styrene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Toluene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:00	12/01/23 17:00	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:00	12/01/23 17:00	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L		3.00	1	12/01/23 17:00	12/01/23 17:00	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	89.0 %		70-120		12/01/23 17:00	12/01/23 17:00	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	99.6 %		75-120		12/01/23 17:00	12/01/23 17:00	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	89.3 %		70-130		12/01/23 17:00	12/01/23 17:00	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	98.7 %		70-130		12/01/23 17:00	12/01/23 17:00	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel Laboratory Sample ID: 23L0004-04
 Grab Date/Time: 11/30/2023 13:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1,2-Dichlorobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1,2-Diphenylhydrazine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1,3-Dichlorobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1,3-Dinitrobenzene	04	SW8270E	<2.55 ug/L		2.55	1	12/05/23 09:00	12/05/23 18:39	BMS
1,4-Dichlorobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
1-Naphthylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4,5-Trichlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4,6-Trichlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4-Dichlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4-Dimethylphenol	04	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4-Dinitrophenol	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
2,4-Dinitrotoluene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,6-Dichlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,6-Dinitrotoluene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Chloronaphthalene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Chlorophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Methylnaphthalene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Naphthylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Nitroaniline	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
2-Nitrophenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
3-Methylcholanthrene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
3-Nitroaniline	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel Laboratory Sample ID: 23L0004-04
 Grab Date/Time: 11/30/2023 13:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Aminobiphenyl	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Chloroaniline	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Nitroaniline	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
4-Nitrophenol	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Acenaphthene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Acenaphthylene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Acetophenone	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
Aniline	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
Anthracene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzidine	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzo (a) anthracene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzo (a) pyrene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzo (b) fluoranthene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzo (g,h,i) perylene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzo (k) fluoranthene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzoic acid	04	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 18:39	BMS
Benzyl alcohol	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel Laboratory Sample ID: 23L0004-04
 Grab Date/Time: 11/30/2023 13:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Chrysene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Dibenz (a,h) anthracene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Dibenz (a,j) acridine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Dibenzofuran	04	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 18:39	BMS
Diethyl phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Dimethyl phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Di-n-butyl phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Di-n-octyl phthalate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Diphenylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Ethyl methanesulfonate	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
Fluoranthene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Fluorene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Hexachlorobenzene	04	SW8270E	<1.02 ug/L		1.02	1	12/05/23 09:00	12/05/23 18:39	BMS
Hexachlorobutadiene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Hexachlorocyclopentadiene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Hexachloroethane	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Isophorone	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
m+p-Cresols	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Methyl methanesulfonate	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Naphthalene	04	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 18:39	BMS
Nitrobenzene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
n-Nitrosodimethylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 55 Pastel	Laboratory Sample ID: 23L0004-04
Grab Date/Time: 11/30/2023 13:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
n-Nitrosopiperidine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
o+m+p-Cresols	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
o-Cresol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<2.55 ug/L		2.55	1	12/05/23 09:00	12/05/23 18:39	BMS
p-Chloro-m-cresol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Pentachlorophenol	04	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 18:39	BMS
Phenacetin	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Phenanthrene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Phenol	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Pronamide	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Pyrene	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Pyridine	04	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 18:39	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	83.7 %		5-136		12/05/23 09:00	12/05/23 18:39	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	71.0 %		9-117		12/05/23 09:00	12/05/23 18:39	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	52.4 %		5-60		12/05/23 09:00	12/05/23 18:39	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	78.4 %		5-151		12/05/23 09:00	12/05/23 18:39	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	31.6 %		5-60		12/05/23 09:00	12/05/23 18:39	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	62.6 %		5-141		12/05/23 09:00	12/05/23 18:39	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel Laboratory Sample ID: 23L0004-05
 Grab Date/Time: 11/30/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:23	12/01/23 17:23	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:23	12/01/23 17:23	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel Laboratory Sample ID: 23L0004-05
 Grab Date/Time: 11/30/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Acetone	05	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:23	12/01/23 17:23	RJB
Benzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Bromobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Bromochloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Bromodichloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
Bromoform	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Bromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Carbon disulfide	05	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:23	12/01/23 17:23	RJB
Carbon tetrachloride	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Chlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Chloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Chloroform	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
Chloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Dibromochloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
Dibromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Ethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L		0.80	1	12/01/23 17:23	12/01/23 17:23	RJB
Iodomethane	05	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:23	12/01/23 17:23	RJB
Isopropylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
m+p-Xylenes	05	SW8260D	<2.00 ug/L		2.00	1	12/01/23 17:23	12/01/23 17:23	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel	Laboratory Sample ID: 23L0004-05
Grab Date/Time: 11/30/2023 13:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	6.86 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:23	12/01/23 17:23	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:23	12/01/23 17:23	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	12/01/23 17:23	12/01/23 17:23	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	92.6 %		70-120		12/01/23 17:23	12/01/23 17:23	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	99.7 %		75-120		12/01/23 17:23	12/01/23 17:23	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	88.2 %		70-130		12/01/23 17:23	12/01/23 17:23	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	97.9 %		70-130		12/01/23 17:23	12/01/23 17:23	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel Laboratory Sample ID: 23L0004-05
 Grab Date/Time: 11/30/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1,2,4-Trichlorobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1,2-Dichlorobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1,2-Diphenylhydrazine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1,3-Dichlorobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1,3-Dinitrobenzene	05	SW8270E	<2.55 ug/L		2.55	1	12/05/23 09:00	12/05/23 19:09	BMS
1,4-Dichlorobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
1-Naphthylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,3,4,6-Tetrachlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4,5-Trichlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4,6-Trichlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4-Dichlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4-Dimethylphenol	05	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4-Dinitrophenol	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
2,4-Dinitrotoluene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,6-Dichlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,6-Dinitrotoluene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Chloronaphthalene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Chlorophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Methylnaphthalene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Naphthylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Nitroaniline	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
2-Nitrophenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
3,3'-Dichlorobenzidine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
3-Methylcholanthrene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
3-Nitroaniline	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS



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Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel Laboratory Sample ID: 23L0004-05
 Grab Date/Time: 11/30/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Aminobiphenyl	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Bromophenyl phenyl ether	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Chloroaniline	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Chlorophenyl phenyl ether	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Nitroaniline	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
4-Nitrophenol	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
7,12-Dimethylbenz (a) anthracene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Acenaphthene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Acenaphthylene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Acetophenone	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
Aniline	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
Anthracene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzidine	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzo (a) anthracene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzo (a) pyrene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzo (b) fluoranthene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzo (g,h,i) perylene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzo (k) fluoranthene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzoic acid	05	SW8270E	<51.0 ug/L		51.0	1	12/05/23 09:00	12/05/23 19:09	BMS
Benzyl alcohol	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
bis (2-Chloroethoxy) methane	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
bis (2-Chloroethyl) ether	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
2,2'-Oxybis (1-chloropropane)	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
bis (2-Ethylhexyl) phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS



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Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel Laboratory Sample ID: 23L0004-05
 Grab Date/Time: 11/30/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Chrysene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Dibenz (a,h) anthracene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Dibenz (a,j) acridine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Dibenzofuran	05	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 19:09	BMS
Diethyl phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Dimethyl phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Di-n-butyl phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Di-n-octyl phthalate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Diphenylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Ethyl methanesulfonate	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
Fluoranthene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Fluorene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Hexachlorobenzene	05	SW8270E	<1.02 ug/L		1.02	1	12/05/23 09:00	12/05/23 19:09	BMS
Hexachlorobutadiene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Hexachlorocyclopentadiene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Hexachloroethane	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Indeno (1,2,3-cd) pyrene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Isophorone	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
m+p-Cresols	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Methyl methanesulfonate	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Naphthalene	05	SW8270E	<5.10 ug/L		5.10	1	12/05/23 09:00	12/05/23 19:09	BMS
Nitrobenzene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
n-Nitrosodimethylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
n-Nitrosodi-n-butylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
n-Nitrosodi-n-propylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 85 Pastel	Laboratory Sample ID: 23L0004-05
Grab Date/Time: 11/30/2023 13:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
n-Nitrosopiperidine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
o+m+p-Cresols	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
o-Cresol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
p-(Dimethylamino) azobenzene	05	SW8270E	<2.55 ug/L		2.55	1	12/05/23 09:00	12/05/23 19:09	BMS
p-Chloro-m-cresol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Pentachloronitrobenzene (quintozene)	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Pentachlorophenol	05	SW8270E	<20.4 ug/L		20.4	1	12/05/23 09:00	12/05/23 19:09	BMS
Phenacetin	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Phenanthrene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Phenol	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Pronamide	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Pyrene	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Pyridine	05	SW8270E	<10.2 ug/L		10.2	1	12/05/23 09:00	12/05/23 19:09	BMS
Surr: 2,4,6-Tribromophenol (Surr)	05	SW8270E	68.9 %		5-136		12/05/23 09:00	12/05/23 19:09	BMS
Surr: 2-Fluorobiphenyl (Surr)	05	SW8270E	61.8 %		9-117		12/05/23 09:00	12/05/23 19:09	BMS
Surr: 2-Fluorophenol (Surr)	05	SW8270E	41.2 %		5-60		12/05/23 09:00	12/05/23 19:09	BMS
Surr: Nitrobenzene-d5 (Surr)	05	SW8270E	67.4 %		5-151		12/05/23 09:00	12/05/23 19:09	BMS
Surr: Phenol-d5 (Surr)	05	SW8270E	26.0 %		5-60		12/05/23 09:00	12/05/23 19:09	BMS
Surr: p-Terphenyl-d14 (Surr)	05	SW8270E	66.5 %		5-141		12/05/23 09:00	12/05/23 19:09	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1,1-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1,2,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1,2-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,1-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2,3-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2,3-Trichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2,4-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2,4-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2-Dibromo-3-chloropropane (DBCP)	06	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2-Dibromoethane (EDB)	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2-Dichlorobenzene	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,2-Dichloropropane	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
1,3,5-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,3-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,3-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
1,4-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
2,2-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
2-Butanone (MEK)	06	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:45	12/01/23 17:45	RJB
2-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
2-Hexanone (MBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:45	12/01/23 17:45	RJB
4-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
4-Methyl-2-pentanone (MIBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Acetone	06	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:45	12/01/23 17:45	RJB
Benzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Bromobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Bromochloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Bromodichloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
Bromoform	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Bromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Carbon disulfide	06	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:45	12/01/23 17:45	RJB
Carbon tetrachloride	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Chlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Chloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Chloroform	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
Chloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
cis-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
cis-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Dibromochloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
Dibromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Dichlorodifluoromethane	06	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Di-isopropyl ether (DIPE)	06	SW8260D	<5.00 ug/L		5.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Ethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Hexachlorobutadiene	06	SW8260D	<0.80 ug/L		0.80	1	12/01/23 17:45	12/01/23 17:45	RJB
Iodomethane	06	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:45	12/01/23 17:45	RJB
Isopropylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
m+p-Xylenes	06	SW8260D	<2.00 ug/L		2.00	1	12/01/23 17:45	12/01/23 17:45	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel	Laboratory Sample ID: 23L0004-06
Grab Date/Time: 11/30/2023 13:30	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	06	SW8260D	<4.00 ug/L		4.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Methyl-t-butyl ether (MTBE)	06	SW8260D	3.87 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Naphthalene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
n-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
n-Propylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
o-Xylene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
sec-Butylbenzene	06	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Styrene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
tert-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Tetrachloroethylene (PCE)	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Toluene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
trans-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
trans-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Trichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Trichlorofluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Vinyl acetate	06	SW8260D	<10.0 ug/L		10.0	1	12/01/23 17:45	12/01/23 17:45	RJB
Vinyl chloride	06	SW8260D	<0.50 ug/L		0.50	1	12/01/23 17:45	12/01/23 17:45	RJB
Xylenes, Total	06	SW8260D	<3.00 ug/L		3.00	1	12/01/23 17:45	12/01/23 17:45	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	06	SW8260D	89.8 %		70-120		12/01/23 17:45	12/01/23 17:45	RJB
Surr: 4-Bromofluorobenzene (Surr)	06	SW8260D	97.6 %		75-120		12/01/23 17:45	12/01/23 17:45	RJB
Surr: Dibromofluoromethane (Surr)	06	SW8260D	89.4 %		70-130		12/01/23 17:45	12/01/23 17:45	RJB
Surr: Toluene-d8 (Surr)	06	SW8260D	97.5 %		70-130		12/01/23 17:45	12/01/23 17:45	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1,2,4-Trichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1,2-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1,2-Diphenylhydrazine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1,3-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1,3-Dinitrobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 19:39	BMS
1,4-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
1-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,3,4,6-Tetrachlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4,5-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4,6-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4-Dimethylphenol	06	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4-Dinitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,4-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,6-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,6-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Chloronaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Chlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Methylnaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2-Nitrophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
3,3'-Dichlorobenzidine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
3-Methylcholanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
3-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Aminobiphenyl	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Bromophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Chloroaniline	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Chlorophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
4-Nitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
7,12-Dimethylbenz (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Acenaphthene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Acenaphthylene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Acetophenone	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Aniline	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzidine	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzo (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzo (a) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzo (b) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzo (g,h,i) perylene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzo (k) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzoic acid	06	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Benzyl alcohol	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
bis (2-Chloroethoxy) methane	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
bis (2-Chloroethyl) ether	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
2,2'-Oxybis (1-chloropropane)	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
bis (2-Ethylhexyl) phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Chrysene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Dibenz (a,h) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Dibenz (a,j) acridine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Dibenzofuran	06	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 19:39	BMS
Diethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Dimethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Di-n-butyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Di-n-octyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Diphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Ethyl methanesulfonate	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Fluorene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Hexachlorobenzene	06	SW8270E	<1.00 ug/L		1.00	1	12/05/23 09:00	12/05/23 19:39	BMS
Hexachlorobutadiene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Hexachlorocyclopentadiene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Hexachloroethane	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Indeno (1,2,3-cd) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Isophorone	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Methyl methanesulfonate	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Naphthalene	06	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 19:39	BMS
Nitrobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
n-Nitrosodimethylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
n-Nitrosodi-n-butylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
n-Nitrosodi-n-propylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 105 Pastel Laboratory Sample ID: 23L0004-06
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
n-Nitrosopiperidine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
o+m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
o-Cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
p-(Dimethylamino) azobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 19:39	BMS
p-Chloro-m-cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Pentachloronitrobenzene (quintozene)	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Pentachlorophenol	06	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Phenacetin	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Phenanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Phenol	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Pronamide	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Pyridine	06	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 19:39	BMS
Surr: 2,4,6-Tribromophenol (Surr)	06	SW8270E	24.1 %		5-136		12/05/23 09:00	12/05/23 19:39	BMS
Surr: 2-Fluorobiphenyl (Surr)	06	SW8270E	28.7 %		9-117		12/05/23 09:00	12/05/23 19:39	BMS
Surr: 2-Fluorophenol (Surr)	06	SW8270E	19.1 %		5-60		12/05/23 09:00	12/05/23 19:39	BMS
Surr: Nitrobenzene-d5 (Surr)	06	SW8270E	29.8 %		5-151		12/05/23 09:00	12/05/23 19:39	BMS
Surr: Phenol-d5 (Surr)	06	SW8270E	11.6 %		5-60		12/05/23 09:00	12/05/23 19:39	BMS
Surr: p-Terphenyl-d14 (Surr)	06	SW8270E	50.1 %		5-141		12/05/23 09:00	12/05/23 19:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1,1-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1,2,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1,2-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,1-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2,3-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2,3-Trichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2,4-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2,4-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2-Dibromo-3-chloropropane (DBCP)	07	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2-Dibromoethane (EDB)	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2-Dichlorobenzene	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,2-Dichloropropane	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
1,3,5-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,3-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,3-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
1,4-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
2,2-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
2-Butanone (MEK)	07	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:08	12/01/23 18:08	RJB
2-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
2-Hexanone (MBK)	07	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:08	12/01/23 18:08	RJB
4-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
4-Methyl-2-pentanone (MIBK)	07	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Acetone	07	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:08	12/01/23 18:08	RJB
Benzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Bromobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Bromochloromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Bromodichloromethane	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
Bromoform	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Bromomethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Carbon disulfide	07	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:08	12/01/23 18:08	RJB
Carbon tetrachloride	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Chlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Chloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Chloroform	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
Chloromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
cis-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
cis-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Dibromochloromethane	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
Dibromomethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Dichlorodifluoromethane	07	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Di-isopropyl ether (DIPE)	07	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Ethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Hexachlorobutadiene	07	SW8260D	<0.80 ug/L		0.80	1	12/01/23 18:08	12/01/23 18:08	RJB
Iodomethane	07	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:08	12/01/23 18:08	RJB
Isopropylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
m+p-Xylenes	07	SW8260D	<2.00 ug/L		2.00	1	12/01/23 18:08	12/01/23 18:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel	Laboratory Sample ID: 23L0004-07
Grab Date/Time: 11/30/2023 13:30	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	07	SW8260D	<4.00 ug/L		4.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Methyl-t-butyl ether (MTBE)	07	SW8260D	4.43 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Naphthalene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
n-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
n-Propylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
o-Xylene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
sec-Butylbenzene	07	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Styrene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
tert-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Tetrachloroethylene (PCE)	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Toluene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
trans-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
trans-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Trichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Trichlorofluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Vinyl acetate	07	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:08	12/01/23 18:08	RJB
Vinyl chloride	07	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:08	12/01/23 18:08	RJB
Xylenes, Total	07	SW8260D	<3.00 ug/L		3.00	1	12/01/23 18:08	12/01/23 18:08	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	SW8260D	90.7 %		70-120		12/01/23 18:08	12/01/23 18:08	RJB
Surr: 4-Bromofluorobenzene (Surr)	07	SW8260D	97.3 %		75-120		12/01/23 18:08	12/01/23 18:08	RJB
Surr: Dibromofluoromethane (Surr)	07	SW8260D	88.4 %		70-130		12/01/23 18:08	12/01/23 18:08	RJB
Surr: Toluene-d8 (Surr)	07	SW8260D	97.6 %		70-130		12/01/23 18:08	12/01/23 18:08	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1,2,4-Trichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1,2-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1,2-Diphenylhydrazine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1,3-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1,3-Dinitrobenzene	07	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 20:08	BMS
1,4-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
1-Naphthylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,3,4,6-Tetrachlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4,5-Trichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4,6-Trichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4-Dichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4-Dimethylphenol	07	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4-Dinitrophenol	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,4-Dinitrotoluene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,6-Dichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,6-Dinitrotoluene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Chloronaphthalene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Chlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Methylnaphthalene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Naphthylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2-Nitrophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
3,3'-Dichlorobenzidine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
3-Methylcholanthrene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
3-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Aminobiphenyl	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Bromophenyl phenyl ether	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Chloroaniline	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Chlorophenyl phenyl ether	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
4-Nitrophenol	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
7,12-Dimethylbenz (a) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Acenaphthene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Acenaphthylene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Acetophenone	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Aniline	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzidine	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzo (a) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzo (a) pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzo (b) fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzo (g,h,i) perylene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzo (k) fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzoic acid	07	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Benzyl alcohol	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
bis (2-Chloroethoxy) methane	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
bis (2-Chloroethyl) ether	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
2,2'-Oxybis (1-chloropropane)	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
bis (2-Ethylhexyl) phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Chrysene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Dibenz (a,h) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Dibenz (a,j) acridine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Dibenzofuran	07	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:08	BMS
Diethyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Dimethyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Di-n-butyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Di-n-octyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Diphenylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Ethyl methanesulfonate	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Fluorene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Hexachlorobenzene	07	SW8270E	<1.00 ug/L		1.00	1	12/05/23 09:00	12/05/23 20:08	BMS
Hexachlorobutadiene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Hexachlorocyclopentadiene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Hexachloroethane	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Indeno (1,2,3-cd) pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Isophorone	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
m+p-Cresols	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Methyl methanesulfonate	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Naphthalene	07	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:08	BMS
Nitrobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
n-Nitrosodimethylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
n-Nitrosodi-n-butylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
n-Nitrosodi-n-propylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 95 Pastel Laboratory Sample ID: 23L0004-07
 Grab Date/Time: 11/30/2023 13:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
n-Nitrosopiperidine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
o+m+p-Cresols	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
o-Cresol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
p-(Dimethylamino) azobenzene	07	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 20:08	BMS
p-Chloro-m-cresol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Pentachloronitrobenzene (quintozene)	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Pentachlorophenol	07	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Phenacetin	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Phenanthrene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Phenol	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Pronamide	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Pyridine	07	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:08	BMS
Surr: 2,4,6-Tribromophenol (Surr)	07	SW8270E	82.4 %		5-136		12/05/23 09:00	12/05/23 20:08	BMS
Surr: 2-Fluorobiphenyl (Surr)	07	SW8270E	71.6 %		9-117		12/05/23 09:00	12/05/23 20:08	BMS
Surr: 2-Fluorophenol (Surr)	07	SW8270E	45.2 %		5-60		12/05/23 09:00	12/05/23 20:08	BMS
Surr: Nitrobenzene-d5 (Surr)	07	SW8270E	75.9 %		5-151		12/05/23 09:00	12/05/23 20:08	BMS
Surr: Phenol-d5 (Surr)	07	SW8270E	27.8 %		5-60		12/05/23 09:00	12/05/23 20:08	BMS
Surr: p-Terphenyl-d14 (Surr)	07	SW8270E	59.2 %		5-141		12/05/23 09:00	12/05/23 20:08	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel Laboratory Sample ID: 23L0004-08
 Grab Date/Time: 11/30/2023 13:55
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	08	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1,1-Trichloroethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1,2,2-Tetrachloroethane	08	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1,2-Trichloroethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1-Dichloroethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1-Dichloroethylene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,1-Dichloropropene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2,3-Trichlorobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2,3-Trichloropropane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2,4-Trichlorobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2,4-Trimethylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2-Dibromo-3-chloropropane (DBCP)	08	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2-Dibromoethane (EDB)	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2-Dichlorobenzene	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2-Dichloroethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,2-Dichloropropane	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
1,3,5-Trimethylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,3-Dichlorobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,3-Dichloropropane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
1,4-Dichlorobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
2,2-Dichloropropane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
2-Butanone (MEK)	08	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:30	12/01/23 18:30	RJB
2-Chlorotoluene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
2-Hexanone (MBK)	08	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:30	12/01/23 18:30	RJB
4-Chlorotoluene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel	Laboratory Sample ID: 23L0004-08
Grab Date/Time: 11/30/2023 13:55	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
4-Methyl-2-pentanone (MIBK)	08	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Acetone	08	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:30	12/01/23 18:30	RJB
Benzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Bromobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Bromochloromethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Bromodichloromethane	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
Bromoform	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Bromomethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Carbon disulfide	08	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:30	12/01/23 18:30	RJB
Carbon tetrachloride	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Chlorobenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Chloroethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Chloroform	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
Chloromethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
cis-1,2-Dichloroethylene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
cis-1,3-Dichloropropene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Dibromochloromethane	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
Dibromomethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Dichlorodifluoromethane	08	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Di-isopropyl ether (DIPE)	08	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Ethylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Hexachlorobutadiene	08	SW8260D	<0.80 ug/L		0.80	1	12/01/23 18:30	12/01/23 18:30	RJB
Iodomethane	08	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:30	12/01/23 18:30	RJB
Isopropylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
m+p-Xylenes	08	SW8260D	<2.00 ug/L		2.00	1	12/01/23 18:30	12/01/23 18:30	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel	Laboratory Sample ID: 23L0004-08
Grab Date/Time: 11/30/2023 13:55	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	08	SW8260D	<4.00 ug/L		4.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Methyl-t-butyl ether (MTBE)	08	SW8260D	6.36 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Naphthalene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
n-Butylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
n-Propylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
o-Xylene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
sec-Butylbenzene	08	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Styrene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
tert-Butylbenzene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Tetrachloroethylene (PCE)	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Toluene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
trans-1,2-Dichloroethylene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
trans-1,3-Dichloropropene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Trichloroethylene	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Trichlorofluoromethane	08	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Vinyl acetate	08	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:30	12/01/23 18:30	RJB
Vinyl chloride	08	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:30	12/01/23 18:30	RJB
Xylenes, Total	08	SW8260D	<3.00 ug/L		3.00	1	12/01/23 18:30	12/01/23 18:30	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	08	SW8260D	90.8 %		70-120		12/01/23 18:30	12/01/23 18:30	RJB
Surr: 4-Bromofluorobenzene (Surr)	08	SW8260D	99.1 %		75-120		12/01/23 18:30	12/01/23 18:30	RJB
Surr: Dibromofluoromethane (Surr)	08	SW8260D	89.2 %		70-130		12/01/23 18:30	12/01/23 18:30	RJB
Surr: Toluene-d8 (Surr)	08	SW8260D	97.0 %		70-130		12/01/23 18:30	12/01/23 18:30	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel Laboratory Sample ID: 23L0004-08
 Grab Date/Time: 11/30/2023 13:55
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1,2,4-Trichlorobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1,2-Dichlorobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1,2-Diphenylhydrazine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1,3-Dichlorobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1,3-Dinitrobenzene	08	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 20:38	BMS
1,4-Dichlorobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
1-Naphthylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,3,4,6-Tetrachlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4,5-Trichlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4,6-Trichlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4-Dichlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4-Dimethylphenol	08	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4-Dinitrophenol	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,4-Dinitrotoluene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,6-Dichlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,6-Dinitrotoluene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Chloronaphthalene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Chlorophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Methylnaphthalene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Naphthylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Nitroaniline	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2-Nitrophenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
3,3'-Dichlorobenzidine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
3-Methylcholanthrene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
3-Nitroaniline	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel Laboratory Sample ID: 23L0004-08
 Grab Date/Time: 11/30/2023 13:55
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Aminobiphenyl	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Bromophenyl phenyl ether	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Chloroaniline	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Chlorophenyl phenyl ether	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Nitroaniline	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
4-Nitrophenol	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
7,12-Dimethylbenz (a) anthracene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Acenaphthene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Acenaphthylene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Acetophenone	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Aniline	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Anthracene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzidine	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzo (a) anthracene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzo (a) pyrene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzo (b) fluoranthene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzo (g,h,i) perylene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzo (k) fluoranthene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzoic acid	08	SW8270E	<50.0 ug/L		50.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Benzyl alcohol	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
bis (2-Chloroethoxy) methane	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
bis (2-Chloroethyl) ether	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
2,2'-Oxybis (1-chloropropane)	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
bis (2-Ethylhexyl) phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel Laboratory Sample ID: 23L0004-08
 Grab Date/Time: 11/30/2023 13:55
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Chrysene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Dibenz (a,h) anthracene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Dibenz (a,j) acridine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Dibenzofuran	08	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:38	BMS
Diethyl phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Dimethyl phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Di-n-butyl phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Di-n-octyl phthalate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Diphenylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Ethyl methanesulfonate	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Fluoranthene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Fluorene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Hexachlorobenzene	08	SW8270E	<1.00 ug/L		1.00	1	12/05/23 09:00	12/05/23 20:38	BMS
Hexachlorobutadiene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Hexachlorocyclopentadiene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Hexachloroethane	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Indeno (1,2,3-cd) pyrene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Isophorone	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
m+p-Cresols	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Methyl methanesulfonate	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Naphthalene	08	SW8270E	<5.00 ug/L		5.00	1	12/05/23 09:00	12/05/23 20:38	BMS
Nitrobenzene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
n-Nitrosodimethylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
n-Nitrosodi-n-butylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
n-Nitrosodi-n-propylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 160 Pastel Laboratory Sample ID: 23L0004-08
 Grab Date/Time: 11/30/2023 13:55
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
n-Nitrosopiperidine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
o+m+p-Cresols	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
o-Cresol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
p-(Dimethylamino) azobenzene	08	SW8270E	<2.50 ug/L		2.50	1	12/05/23 09:00	12/05/23 20:38	BMS
p-Chloro-m-cresol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Pentachloronitrobenzene (quintozene)	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Pentachlorophenol	08	SW8270E	<20.0 ug/L		20.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Phenacetin	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Phenanthrene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Phenol	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Pronamide	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Pyrene	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Pyridine	08	SW8270E	<10.0 ug/L		10.0	1	12/05/23 09:00	12/05/23 20:38	BMS
Surr: 2,4,6-Tribromophenol (Surr)	08	SW8270E	79.7 %		5-136		12/05/23 09:00	12/05/23 20:38	BMS
Surr: 2-Fluorobiphenyl (Surr)	08	SW8270E	69.9 %		9-117		12/05/23 09:00	12/05/23 20:38	BMS
Surr: 2-Fluorophenol (Surr)	08	SW8270E	49.7 %		5-60		12/05/23 09:00	12/05/23 20:38	BMS
Surr: Nitrobenzene-d5 (Surr)	08	SW8270E	73.6 %		5-151		12/05/23 09:00	12/05/23 20:38	BMS
Surr: Phenol-d5 (Surr)	08	SW8270E	28.3 %		5-60		12/05/23 09:00	12/05/23 20:38	BMS
Surr: p-Terphenyl-d14 (Surr)	08	SW8270E	67.0 %		5-141		12/05/23 09:00	12/05/23 20:38	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel Laboratory Sample ID: 23L0004-09
 Grab Date/Time: 11/30/2023 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	09	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1,1-Trichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1,2,2-Tetrachloroethane	09	SW8260D	<0.40 ug/L		0.40	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1,2-Trichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1-Dichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,1-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2,3-Trichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2,3-Trichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2,4-Trichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2,4-Trimethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2-Dibromo-3-chloropropane (DBCP)	09	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2-Dibromoethane (EDB)	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2-Dichlorobenzene	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2-Dichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,2-Dichloropropane	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
1,3,5-Trimethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,3-Dichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,3-Dichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
1,4-Dichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
2,2-Dichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
2-Butanone (MEK)	09	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:53	12/01/23 18:53	RJB
2-Chlorotoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
2-Hexanone (MBK)	09	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:53	12/01/23 18:53	RJB
4-Chlorotoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel	Laboratory Sample ID: 23L0004-09
Grab Date/Time: 11/30/2023 14:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
4-Methyl-2-pentanone (MIBK)	09	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Acetone	09	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:53	12/01/23 18:53	RJB
Benzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Bromobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Bromochloromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Bromodichloromethane	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
Bromoform	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Bromomethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Carbon disulfide	09	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:53	12/01/23 18:53	RJB
Carbon tetrachloride	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Chlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Chloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Chloroform	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
Chloromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
cis-1,2-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
cis-1,3-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Dibromochloromethane	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
Dibromomethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Dichlorodifluoromethane	09	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Di-isopropyl ether (DIPE)	09	SW8260D	<5.00 ug/L		5.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Ethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Hexachlorobutadiene	09	SW8260D	<0.80 ug/L		0.80	1	12/01/23 18:53	12/01/23 18:53	RJB
Iodomethane	09	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:53	12/01/23 18:53	RJB
Isopropylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
m+p-Xylenes	09	SW8260D	<2.00 ug/L		2.00	1	12/01/23 18:53	12/01/23 18:53	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel	Laboratory Sample ID: 23L0004-09
Grab Date/Time: 11/30/2023 14:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	09	SW8260D	<4.00 ug/L		4.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Methyl-t-butyl ether (MTBE)	09	SW8260D	7.17 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Naphthalene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
n-Butylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
n-Propylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
o-Xylene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
sec-Butylbenzene	09	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Styrene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
tert-Butylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Tetrachloroethylene (PCE)	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Toluene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
trans-1,2-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
trans-1,3-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Trichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Trichlorofluoromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Vinyl acetate	09	SW8260D	<10.0 ug/L		10.0	1	12/01/23 18:53	12/01/23 18:53	RJB
Vinyl chloride	09	SW8260D	<0.50 ug/L		0.50	1	12/01/23 18:53	12/01/23 18:53	RJB
Xylenes, Total	09	SW8260D	<3.00 ug/L		3.00	1	12/01/23 18:53	12/01/23 18:53	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	09	SW8260D	92.6 %		70-120		12/01/23 18:53	12/01/23 18:53	RJB
Surr: 4-Bromofluorobenzene (Surr)	09	SW8260D	98.6 %		75-120		12/01/23 18:53	12/01/23 18:53	RJB
Surr: Dibromofluoromethane (Surr)	09	SW8260D	89.9 %		70-130		12/01/23 18:53	12/01/23 18:53	RJB
Surr: Toluene-d8 (Surr)	09	SW8260D	97.6 %		70-130		12/01/23 18:53	12/01/23 18:53	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel	Laboratory Sample ID: 23L0004-09
Grab Date/Time: 11/30/2023 14:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1,2,4-Trichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1,2-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1,2-Diphenylhydrazine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1,3-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1,3-Dinitrobenzene	09	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 02:45	BMS
1,4-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
1-Naphthylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,3,4,6-Tetrachlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4,5-Trichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4,6-Trichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4-Dichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4-Dimethylphenol	09	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4-Dinitrophenol	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,4-Dinitrotoluene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,6-Dichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,6-Dinitrotoluene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Chloronaphthalene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Chlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Methylnaphthalene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Naphthylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2-Nitrophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
3,3'-Dichlorobenzidine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
3-Methylcholanthrene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
3-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel	Laboratory Sample ID: 23L0004-09
Grab Date/Time: 11/30/2023 14:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Aminobiphenyl	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Bromophenyl phenyl ether	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Chloroaniline	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Chlorophenyl phenyl ether	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
4-Nitrophenol	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
7,12-Dimethylbenz (a) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Acenaphthene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Acenaphthylene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Acetophenone	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Aniline	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzidine	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzo (a) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzo (a) pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzo (b) fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzo (g,h,i) perylene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzo (k) fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzoic acid	09	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Benzyl alcohol	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
bis (2-Chloroethoxy) methane	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
bis (2-Chloroethyl) ether	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
2,2'-Oxybis (1-chloropropane)	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
bis (2-Ethylhexyl) phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel Laboratory Sample ID: 23L0004-09
 Grab Date/Time: 11/30/2023 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Chrysene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Dibenz (a,h) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Dibenz (a,j) acridine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Dibenzofuran	09	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:45	BMS
Diethyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Dimethyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Di-n-butyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Di-n-octyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Diphenylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Ethyl methanesulfonate	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Fluorene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Hexachlorobenzene	09	SW8270E	<1.00 ug/L		1.00	1	12/04/23 09:00	12/05/23 02:45	BMS
Hexachlorobutadiene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Hexachlorocyclopentadiene	09	SW8270E	<10.0 ug/L	C	10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Hexachloroethane	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Indeno (1,2,3-cd) pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Isophorone	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
m+p-Cresols	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Methyl methanesulfonate	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Naphthalene	09	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 02:45	BMS
Nitrobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
n-Nitrosodimethylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
n-Nitrosodi-n-butylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
n-Nitrosodi-n-propylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 164 Pastel Laboratory Sample ID: 23L0004-09
 Grab Date/Time: 11/30/2023 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
n-Nitrosopiperidine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
o+m+p-Cresols	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
o-Cresol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
p-(Dimethylamino) azobenzene	09	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 02:45	BMS
p-Chloro-m-cresol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Pentachloronitrobenzene (quintozene)	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Pentachlorophenol	09	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Phenacetin	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Phenanthrene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Phenol	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Pronamide	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Pyridine	09	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 02:45	BMS
Surr: 2,4,6-Tribromophenol (Surr)	09	SW8270E	34.5 %		5-136		12/04/23 09:00	12/05/23 02:45	BMS
Surr: 2-Fluorobiphenyl (Surr)	09	SW8270E	36.9 %		9-117		12/04/23 09:00	12/05/23 02:45	BMS
Surr: 2-Fluorophenol (Surr)	09	SW8270E	23.3 %		5-60		12/04/23 09:00	12/05/23 02:45	BMS
Surr: Nitrobenzene-d5 (Surr)	09	SW8270E	37.2 %		5-151		12/04/23 09:00	12/05/23 02:45	BMS
Surr: Phenol-d5 (Surr)	09	SW8270E	14.3 %		5-60		12/04/23 09:00	12/05/23 02:45	BMS
Surr: p-Terphenyl-d14 (Surr)	09	SW8270E	61.0 %		5-141		12/04/23 09:00	12/05/23 02:45	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel Laboratory Sample ID: 23L0004-10
 Grab Date/Time: 11/30/2023 14:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	10	SW8260D	<0.40 ug/L		0.40	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1,1-Trichloroethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1,2,2-Tetrachloroethane	10	SW8260D	<0.40 ug/L		0.40	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1,2-Trichloroethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1-Dichloroethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1-Dichloroethylene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,1-Dichloropropene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2,3-Trichlorobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2,3-Trichloropropane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2,4-Trichlorobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2,4-Trimethylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2-Dibromo-3-chloropropane (DBCP)	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2-Dibromoethane (EDB)	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2-Dichlorobenzene	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2-Dichloroethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,2-Dichloropropane	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
1,3,5-Trimethylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,3-Dichlorobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,3-Dichloropropane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
1,4-Dichlorobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
2,2-Dichloropropane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
2-Butanone (MEK)	10	SW8260D	<10.0 ug/L		10.0	1	12/01/23 14:47	12/01/23 14:47	RJB
2-Chlorotoluene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
2-Hexanone (MBK)	10	SW8260D	<5.00 ug/L		5.00	1	12/01/23 14:47	12/01/23 14:47	RJB
4-Chlorotoluene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel Laboratory Sample ID: 23L0004-10
 Grab Date/Time: 11/30/2023 14:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
4-Methyl-2-pentanone (MIBK)	10	SW8260D	<5.00 ug/L		5.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Acetone	10	SW8260D	<10.0 ug/L		10.0	1	12/01/23 14:47	12/01/23 14:47	RJB
Benzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Bromobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Bromochloromethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Bromodichloromethane	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
Bromoform	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Bromomethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Carbon disulfide	10	SW8260D	<10.0 ug/L		10.0	1	12/01/23 14:47	12/01/23 14:47	RJB
Carbon tetrachloride	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Chlorobenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Chloroethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Chloroform	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
Chloromethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
cis-1,2-Dichloroethylene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
cis-1,3-Dichloropropene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Dibromochloromethane	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
Dibromomethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Dichlorodifluoromethane	10	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Di-isopropyl ether (DIPE)	10	SW8260D	<5.00 ug/L		5.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Ethylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Hexachlorobutadiene	10	SW8260D	<0.80 ug/L		0.80	1	12/01/23 14:47	12/01/23 14:47	RJB
Iodomethane	10	SW8260D	<10.0 ug/L	C	10.0	1	12/01/23 14:47	12/01/23 14:47	RJB
Isopropylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
m+p-Xylenes	10	SW8260D	<2.00 ug/L		2.00	1	12/01/23 14:47	12/01/23 14:47	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel	Laboratory Sample ID: 23L0004-10
Grab Date/Time: 11/30/2023 14:40	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	10	SW8260D	<4.00 ug/L		4.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Methyl-t-butyl ether (MTBE)	10	SW8260D	7.92 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Naphthalene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
n-Butylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
n-Propylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
o-Xylene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
sec-Butylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Styrene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
tert-Butylbenzene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Tetrachloroethylene (PCE)	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Toluene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
trans-1,2-Dichloroethylene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
trans-1,3-Dichloropropene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Trichloroethylene	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Trichlorofluoromethane	10	SW8260D	<1.00 ug/L		1.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Vinyl acetate	10	SW8260D	<10.0 ug/L		10.0	1	12/01/23 14:47	12/01/23 14:47	RJB
Vinyl chloride	10	SW8260D	<0.50 ug/L		0.50	1	12/01/23 14:47	12/01/23 14:47	RJB
Xylenes, Total	10	SW8260D	<3.00 ug/L		3.00	1	12/01/23 14:47	12/01/23 14:47	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	10	SW8260D	96.3 %		70-120		12/01/23 14:47	12/01/23 14:47	RJB
Surr: 4-Bromofluorobenzene (Surr)	10	SW8260D	98.6 %		75-120		12/01/23 14:47	12/01/23 14:47	RJB
Surr: Dibromofluoromethane (Surr)	10	SW8260D	95.2 %		70-130		12/01/23 14:47	12/01/23 14:47	RJB
Surr: Toluene-d8 (Surr)	10	SW8260D	97.9 %		70-130		12/01/23 14:47	12/01/23 14:47	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel Laboratory Sample ID: 23L0004-10
 Grab Date/Time: 11/30/2023 14:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1,2,4-Trichlorobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1,2-Dichlorobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1,2-Diphenylhydrazine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1,3-Dichlorobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1,3-Dinitrobenzene	10	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 03:15	BMS
1,4-Dichlorobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
1-Naphthylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,3,4,6-Tetrachlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4,5-Trichlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4,6-Trichlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4-Dichlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4-Dimethylphenol	10	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4-Dinitrophenol	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,4-Dinitrotoluene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,6-Dichlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,6-Dinitrotoluene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Chloronaphthalene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Chlorophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Methylnaphthalene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Naphthylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Nitroaniline	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2-Nitrophenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
3,3'-Dichlorobenzidine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
3-Methylcholanthrene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
3-Nitroaniline	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel	Laboratory Sample ID: 23L0004-10
Grab Date/Time: 11/30/2023 14:40	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Aminobiphenyl	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Bromophenyl phenyl ether	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Chloroaniline	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Chlorophenyl phenyl ether	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Nitroaniline	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
4-Nitrophenol	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
7,12-Dimethylbenz (a) anthracene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Acenaphthene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Acenaphthylene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Acetophenone	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Aniline	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Anthracene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzidine	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzo (a) anthracene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzo (a) pyrene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzo (b) fluoranthene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzo (g,h,i) perylene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzo (k) fluoranthene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzoic acid	10	SW8270E	<50.0 ug/L		50.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Benzyl alcohol	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
bis (2-Chloroethoxy) methane	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
bis (2-Chloroethyl) ether	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
2,2'-Oxybis (1-chloropropane)	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
bis (2-Ethylhexyl) phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel Laboratory Sample ID: 23L0004-10
 Grab Date/Time: 11/30/2023 14:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Chrysene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Dibenz (a,h) anthracene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Dibenz (a,j) acridine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Dibenzofuran	10	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 03:15	BMS
Diethyl phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Dimethyl phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Di-n-butyl phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Di-n-octyl phthalate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Diphenylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Ethyl methanesulfonate	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Fluoranthene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Fluorene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Hexachlorobenzene	10	SW8270E	<1.00 ug/L		1.00	1	12/04/23 09:00	12/05/23 03:15	BMS
Hexachlorobutadiene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Hexachlorocyclopentadiene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Hexachloroethane	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Indeno (1,2,3-cd) pyrene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Isophorone	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
m+p-Cresols	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Methyl methanesulfonate	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Naphthalene	10	SW8270E	<5.00 ug/L		5.00	1	12/04/23 09:00	12/05/23 03:15	BMS
Nitrobenzene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
n-Nitrosodimethylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
n-Nitrosodi-n-butylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
n-Nitrosodi-n-propylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. 163 Pastel	Laboratory Sample ID: 23L0004-10
Grab Date/Time: 11/30/2023 14:40	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
n-Nitrosopiperidine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
o+m+p-Cresols	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
o-Cresol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
p-(Dimethylamino) azobenzene	10	SW8270E	<2.50 ug/L		2.50	1	12/04/23 09:00	12/05/23 03:15	BMS
p-Chloro-m-cresol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Pentachloronitrobenzene (quintozene)	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Pentachlorophenol	10	SW8270E	<20.0 ug/L		20.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Phenacetin	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Phenanthrene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Phenol	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Pronamide	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Pyrene	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Pyridine	10	SW8270E	<10.0 ug/L		10.0	1	12/04/23 09:00	12/05/23 03:15	BMS
Surr: 2,4,6-Tribromophenol (Surr)	10	SW8270E	68.2 %		5-136		12/04/23 09:00	12/05/23 03:15	BMS
Surr: 2-Fluorobiphenyl (Surr)	10	SW8270E	60.1 %		9-117		12/04/23 09:00	12/05/23 03:15	BMS
Surr: 2-Fluorophenol (Surr)	10	SW8270E	39.6 %		5-60		12/04/23 09:00	12/05/23 03:15	BMS
Surr: Nitrobenzene-d5 (Surr)	10	SW8270E	60.7 %		5-151		12/04/23 09:00	12/05/23 03:15	BMS
Surr: Phenol-d5 (Surr)	10	SW8270E	24.0 %		5-60		12/04/23 09:00	12/05/23 03:15	BMS
Surr: p-Terphenyl-d14 (Surr)	10	SW8270E	76.6 %		5-141		12/04/23 09:00	12/05/23 03:15	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0004-11
 Grab Date/Time: 11/28/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	11	SW8260D	<0.40 ug/L		0.40	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1,1-Trichloroethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1,2,2-Tetrachloroethane	11	SW8260D	<0.40 ug/L		0.40	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1,2-Trichloroethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1-Dichloroethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1-Dichloroethylene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,1-Dichloropropene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2,3-Trichlorobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2,3-Trichloropropane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2,4-Trichlorobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2,4-Trimethylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2-Dibromo-3-chloropropane (DBCP)	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2-Dibromoethane (EDB)	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2-Dichlorobenzene	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2-Dichloroethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,2-Dichloropropane	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
1,3,5-Trimethylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,3-Dichlorobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,3-Dichloropropane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
1,4-Dichlorobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
2,2-Dichloropropane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
2-Butanone (MEK)	11	SW8260D	<10.0 ug/L		10.0	1	12/01/23 13:14	12/01/23 13:14	RJB
2-Chlorotoluene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
2-Hexanone (MBK)	11	SW8260D	<5.00 ug/L		5.00	1	12/01/23 13:14	12/01/23 13:14	RJB
4-Chlorotoluene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0004-11
 Grab Date/Time: 11/28/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
4-Methyl-2-pentanone (MIBK)	11	SW8260D	<5.00 ug/L		5.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Acetone	11	SW8260D	<10.0 ug/L		10.0	1	12/01/23 13:14	12/01/23 13:14	RJB
Benzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Bromobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Bromochloromethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Bromodichloromethane	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
Bromoform	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Bromomethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Carbon disulfide	11	SW8260D	<10.0 ug/L		10.0	1	12/01/23 13:14	12/01/23 13:14	RJB
Carbon tetrachloride	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Chlorobenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Chloroethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Chloroform	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
Chloromethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
cis-1,2-Dichloroethylene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
cis-1,3-Dichloropropene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Dibromochloromethane	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
Dibromomethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Dichlorodifluoromethane	11	SW8260D	<1.00 ug/L	C	1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Di-isopropyl ether (DIPE)	11	SW8260D	<5.00 ug/L		5.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Ethylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Hexachlorobutadiene	11	SW8260D	<0.80 ug/L		0.80	1	12/01/23 13:14	12/01/23 13:14	RJB
Iodomethane	11	SW8260D	<10.0 ug/L	C	10.0	1	12/01/23 13:14	12/01/23 13:14	RJB
Isopropylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
m+p-Xylenes	11	SW8260D	<2.00 ug/L		2.00	1	12/01/23 13:14	12/01/23 13:14	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0004

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23L0004-11
Grab Date/Time: 11/28/2023 16:30	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	11	SW8260D	<4.00 ug/L		4.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Methyl-t-butyl ether (MTBE)	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Naphthalene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
n-Butylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
n-Propylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
o-Xylene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
sec-Butylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Styrene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
tert-Butylbenzene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Tetrachloroethylene (PCE)	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Toluene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
trans-1,2-Dichloroethylene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
trans-1,3-Dichloropropene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Trichloroethylene	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Trichlorofluoromethane	11	SW8260D	<1.00 ug/L		1.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Vinyl acetate	11	SW8260D	<10.0 ug/L		10.0	1	12/01/23 13:14	12/01/23 13:14	RJB
Vinyl chloride	11	SW8260D	<0.50 ug/L		0.50	1	12/01/23 13:14	12/01/23 13:14	RJB
Xylenes, Total	11	SW8260D	<3.00 ug/L		3.00	1	12/01/23 13:14	12/01/23 13:14	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	11	SW8260D	96.0 %		70-120		12/01/23 13:14	12/01/23 13:14	RJB
Surr: 4-Bromofluorobenzene (Surr)	11	SW8260D	98.2 %		75-120		12/01/23 13:14	12/01/23 13:14	RJB
Surr: Dibromofluoromethane (Surr)	11	SW8260D	97.6 %		70-130		12/01/23 13:14	12/01/23 13:14	RJB
Surr: Toluene-d8 (Surr)	11	SW8260D	96.9 %		70-130		12/01/23 13:14	12/01/23 13:14	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Semivolatile Organic Compounds by GCMS

Preparation Method: SW3510C/EPA600-MS

23L0004-01	1020 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271
23L0004-02	1040 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271
23L0004-09	1010 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271
23L0004-10	1010 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271

Semivolatile Organic Compounds by GCMS

Preparation Method: SW3510C/EPA600-MS

23L0004-03	990 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
23L0004-04	980 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
23L0004-05	980 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
23L0004-06	1010 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
23L0004-07	1030 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
23L0004-08	1010 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Volatile Organic Compounds by GCMS

Preparation Method: SW5030B-MS

23L0004-01	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-02	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-03	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-04	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-05	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-06	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-07	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-08	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
23L0004-09	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322

Volatile Organic Compounds by GCMS

Preparation Method: SW5030B-MS

23L0004-10	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373
23L0004-11	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL0081-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271
BGL0081-BLK2		SW8270E	BGL0081	SGL0120	AI30147
BGL0081-BS1	1000 mL / 1.00 mL	SW8270E	BGL0081	SGL0115	AK30271
BGL0124-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
BGL0124-BLK2		SW8270E	BGL0124	SGL0200	AK30273
BGL0124-BS1	1000 mL / 1.00 mL	SW8270E	BGL0124	SGL0143	AK30271
BGL0124-BS2		SW8270E	BGL0124	SGL0200	AK30273

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL0032-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
BGL0032-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
BGL0032-BS2	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0094	AJ30322
BGL0032-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
BGL0032-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0032	SGL0030	AJ30322
BGL0041-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373
BGL0041-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373
BGL0041-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373
BGL0041-MSD1	5.00 mL / 5.00 mL	SW8260D	BGL0041	SGL0046	AJ30373



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Blank (BGL0032-BLK1)

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Blank (BGL0032-BLK1)

Prepared & Analyzed: 12/01/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Blank (BGL0032-BLK1)

Prepared & Analyzed: 12/01/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
<hr style="border-top: 1px dashed black;"/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	46.7		ug/L	50.0		93.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.4		ug/L	50.0		98.8	75-120			
Surr: Dibromofluoromethane (Surr)	44.8		ug/L	50.0		89.5	70-130			
Surr: Toluene-d8 (Surr)	49.0		ug/L	50.0		97.9	70-130			

LCS (BGL0032-BS1)

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	53.2 ug/L	0.4	ug/L	50.0	ug/L	106	80-130			
1,1,1-Trichloroethane	53.4 ug/L	1	ug/L	50.0	ug/L	107	65-130			
1,1,2,2-Tetrachloroethane	47.7 ug/L	0.4	ug/L	50.0	ug/L	95.3	65-130			
1,1,2-Trichloroethane	49.3 ug/L	1	ug/L	50.0	ug/L	98.5	75-125			
1,1-Dichloroethane	49.2 ug/L	1	ug/L	50.0	ug/L	98.5	70-135			
1,1-Dichloroethylene	46.2 ug/L	1	ug/L	50.0	ug/L	92.5	70-130			
1,1-Dichloropropene	57.0 ug/L	1	ug/L	50.0	ug/L	114	75-135			
1,2,3-Trichlorobenzene	49.0 ug/L	1	ug/L	50.0	ug/L	98.0	55-140			
1,2,3-Trichloropropane	47.6 ug/L	1	ug/L	50.0	ug/L	95.3	75-125			
1,2,4-Trichlorobenzene	53.7 ug/L	1	ug/L	50.0	ug/L	107	65-135			
1,2,4-Trimethylbenzene	56.1 ug/L	1	ug/L	50.0	ug/L	112	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	45.4 ug/L	1	ug/L	50.0	ug/L	90.8	50-130			
1,2-Dibromoethane (EDB)	51.3 ug/L	1	ug/L	50.0	ug/L	103	80-120			
1,2-Dichlorobenzene	53.8 ug/L	0.5	ug/L	50.0	ug/L	108	70-120			
1,2-Dichloroethane	44.1 ug/L	1	ug/L	50.0	ug/L	88.3	70-130			
1,2-Dichloropropane	52.3 ug/L	0.5	ug/L	50.0	ug/L	105	75-125			
1,3,5-Trimethylbenzene	54.9 ug/L	1	ug/L	50.0	ug/L	110	75-125			
1,3-Dichlorobenzene	55.1 ug/L	1	ug/L	50.0	ug/L	110	75-125			
1,3-Dichloropropane	48.6 ug/L	1	ug/L	50.0	ug/L	97.1	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

LCS (BGL0032-BS1)

Prepared & Analyzed: 12/01/2023

1,4-Dichlorobenzene	54.6 ug/L	1	ug/L	50.0	ug/L	109	75-125			
2,2-Dichloropropane	56.6 ug/L	1	ug/L	50.0	ug/L	113	70-135			
2-Butanone (MEK)	35.1 ug/L	10	ug/L	50.0	ug/L	70.1	30-150			
2-Chlorotoluene	54.7 ug/L	1	ug/L	50.0	ug/L	109	75-125			
2-Hexanone (MBK)	42.8 ug/L	5	ug/L	50.0	ug/L	85.5	55-130			
4-Chlorotoluene	56.6 ug/L	1	ug/L	50.0	ug/L	113	75-130			
4-Isopropyltoluene	62.1 ug/L	1	ug/L	50.0	ug/L	124	75-130			
4-Methyl-2-pentanone (MIBK)	40.7 ug/L	5	ug/L	50.0	ug/L	81.3	60-135			
Acetone	32.1 ug/L	10	ug/L	50.0	ug/L	64.2	40-140			
Benzene	52.6 ug/L	1	ug/L	50.0	ug/L	105	80-120			
Bromobenzene	54.6 ug/L	1	ug/L	50.0	ug/L	109	75-125			
Bromochloromethane	46.8 ug/L	1	ug/L	50.0	ug/L	93.5	65-130			
Bromodichloromethane	49.6 ug/L	0.5	ug/L	50.0	ug/L	99.1	75-120			
Bromoform	50.4 ug/L	1	ug/L	50.0	ug/L	101	70-130			
Bromomethane	31.6 ug/L	1	ug/L	50.0	ug/L	63.3	30-145			
Carbon disulfide	38.6 ug/L	10	ug/L	50.0	ug/L	77.1	35-160			
Carbon tetrachloride	61.5 ug/L	1	ug/L	50.0	ug/L	123	65-140			
Chlorobenzene	53.9 ug/L	1	ug/L	50.0	ug/L	108	80-120			
Chloroethane	46.0 ug/L	1	ug/L	50.0	ug/L	91.9	60-135			
Chloroform	45.5 ug/L	0.5	ug/L	50.0	ug/L	91.1	65-135			
Chloromethane	38.3 ug/L	1	ug/L	50.0	ug/L	76.5	40-125			
cis-1,2-Dichloroethylene	47.2 ug/L	1	ug/L	50.0	ug/L	94.4	70-125			
cis-1,3-Dichloropropene	53.8 ug/L	1	ug/L	50.0	ug/L	108	70-130			
Dibromochloromethane	51.4 ug/L	0.5	ug/L	50.0	ug/L	103	60-135			
Dibromomethane	48.8 ug/L	1	ug/L	50.0	ug/L	97.6	75-125			
Dichlorodifluoromethane	48.4 ug/L	1	ug/L	50.0	ug/L	96.7	30-155			
Ethylbenzene	55.5 ug/L	1	ug/L	50.0	ug/L	111	75-125			
Hexachlorobutadiene	61.6 ug/L	0.8	ug/L	50.0	ug/L	123	50-140			
Isopropylbenzene	55.1 ug/L	1	ug/L	50.0	ug/L	110	75-125			
m+p-Xylenes	111 ug/L	2	ug/L	100	ug/L	111	75-130			
Methylene chloride	41.5 ug/L	4	ug/L	50.0	ug/L	83.0	55-140			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

LCS (BGL0032-BS1)

Prepared & Analyzed: 12/01/2023

Methyl-t-butyl ether (MTBE)	44.4 ug/L	1	ug/L	50.0	ug/L	88.9	65-125			
Naphthalene	47.6 ug/L	1	ug/L	50.0	ug/L	95.3	55-140			
n-Butylbenzene	62.4 ug/L	1	ug/L	50.0	ug/L	125	70-135			
n-Propylbenzene	59.1 ug/L	1	ug/L	50.0	ug/L	118	70-130			
o-Xylene	55.0 ug/L	1	ug/L	50.0	ug/L	110	80-120			
sec-Butylbenzene	67.2 ug/L	1	ug/L	50.0	ug/L	134	70-125			
Styrene	52.8 ug/L	1	ug/L	50.0	ug/L	106	65-135			
tert-Butylbenzene	61.2 ug/L	1	ug/L	50.0	ug/L	122	70-130			
Tetrachloroethylene (PCE)	63.9 ug/L	1	ug/L	50.0	ug/L	128	45-150			
Toluene	53.8 ug/L	1	ug/L	50.0	ug/L	108	75-120			
trans-1,2-Dichloroethylene	44.7 ug/L	1	ug/L	50.0	ug/L	89.4	60-140			
trans-1,3-Dichloropropene	57.7 ug/L	1	ug/L	50.0	ug/L	115	55-140			
Trichloroethylene	55.9 ug/L	1	ug/L	50.0	ug/L	112	70-125			
Trichlorofluoromethane	60.3 ug/L	1	ug/L	50.0	ug/L	121	60-145			
Vinyl chloride	46.5 ug/L	0.5	ug/L	50.0	ug/L	93.1	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	45.8		ug/L	50.0	ug/L	91.6	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.0		ug/L	50.0	ug/L	98.1	75-120			
Surr: Dibromofluoromethane (Surr)	45.1		ug/L	50.0	ug/L	90.2	70-130			
Surr: Toluene-d8 (Surr)	48.6		ug/L	50.0	ug/L	97.1	70-130			

LCS (BGL0032-BS2)

Prepared & Analyzed: 12/04/2023

1,1,1,2-Tetrachloroethane	45.2 ug/L	0.4	ug/L	50.0	ug/L	90.4	80-130			
1,1,1-Trichloroethane	47.9 ug/L	1	ug/L	50.0	ug/L	95.9	65-130			
1,1,2,2-Tetrachloroethane	37.3 ug/L	0.4	ug/L	50.0	ug/L	74.6	65-130			
1,1,2-Trichloroethane	41.7 ug/L	1	ug/L	50.0	ug/L	83.4	75-125			
1,1-Dichloroethane	45.4 ug/L	1	ug/L	50.0	ug/L	90.8	70-135			
1,1-Dichloroethylene	44.5 ug/L	1	ug/L	50.0	ug/L	88.9	70-130			
1,1-Dichloropropene	53.6 ug/L	1	ug/L	50.0	ug/L	107	75-135			
1,2,3-Trichlorobenzene	37.8 ug/L	1	ug/L	50.0	ug/L	75.6	55-140			
1,2,3-Trichloropropane	38.3 ug/L	1	ug/L	50.0	ug/L	76.5	75-125			
1,2,4-Trichlorobenzene	43.2 ug/L	1	ug/L	50.0	ug/L	86.4	65-135			
1,2,4-Trimethylbenzene	48.6 ug/L	1	ug/L	50.0	ug/L	97.2	75-130			



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Certificate of Analysis

Final Report

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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

LCS (BGL0032-BS2)

Prepared & Analyzed: 12/04/2023

1,2-Dibromo-3-chloropropane (DBCP)	32.7 ug/L	1	ug/L	50.0	ug/L	65.5	50-130			
1,2-Dibromoethane (EDB)	44.2 ug/L	1	ug/L	50.0	ug/L	88.3	80-120			
1,2-Dichlorobenzene	45.5 ug/L	0.5	ug/L	50.0	ug/L	90.9	70-120			
1,2-Dichloroethane	39.7 ug/L	1	ug/L	50.0	ug/L	79.4	70-130			
1,2-Dichloropropane	46.3 ug/L	0.5	ug/L	50.0	ug/L	92.6	75-125			
1,3,5-Trimethylbenzene	48.6 ug/L	1	ug/L	50.0	ug/L	97.1	75-125			
1,3-Dichlorobenzene	47.2 ug/L	1	ug/L	50.0	ug/L	94.4	75-125			
1,3-Dichloropropane	42.3 ug/L	1	ug/L	50.0	ug/L	84.7	75-125			
1,4-Dichlorobenzene	47.2 ug/L	1	ug/L	50.0	ug/L	94.4	75-125			
2,2-Dichloropropane	51.4 ug/L	1	ug/L	50.0	ug/L	103	70-135			
2-Butanone (MEK)	30.2 ug/L	10	ug/L	50.0	ug/L	60.4	30-150			
2-Chlorotoluene	48.0 ug/L	1	ug/L	50.0	ug/L	95.9	75-125			
2-Hexanone (MBK)	35.2 ug/L	5	ug/L	50.0	ug/L	70.4	55-130			
4-Chlorotoluene	48.9 ug/L	1	ug/L	50.0	ug/L	97.7	75-130			
4-Isopropyltoluene	53.1 ug/L	1	ug/L	50.0	ug/L	106	75-130			
4-Methyl-2-pentanone (MIBK)	35.7 ug/L	5	ug/L	50.0	ug/L	71.4	60-135			
Acetone	28.1 ug/L	10	ug/L	50.0	ug/L	56.1	40-140			
Benzene	48.6 ug/L	1	ug/L	50.0	ug/L	97.3	80-120			
Bromobenzene	46.9 ug/L	1	ug/L	50.0	ug/L	93.9	75-125			
Bromochloromethane	42.0 ug/L	1	ug/L	50.0	ug/L	84.0	65-130			
Bromodichloromethane	43.7 ug/L	0.5	ug/L	50.0	ug/L	87.4	75-120			
Bromoform	41.5 ug/L	1	ug/L	50.0	ug/L	83.1	70-130			
Bromomethane	33.5 ug/L	1	ug/L	50.0	ug/L	67.1	30-145			
Carbon disulfide	49.2 ug/L	10	ug/L	50.0	ug/L	98.3	35-160			
Carbon tetrachloride	56.3 ug/L	1	ug/L	50.0	ug/L	113	65-140			
Chlorobenzene	47.6 ug/L	1	ug/L	50.0	ug/L	95.1	80-120			
Chloroethane	48.0 ug/L	1	ug/L	50.0	ug/L	95.9	60-135			
Chloroform	41.0 ug/L	0.5	ug/L	50.0	ug/L	82.0	65-135			
Chloromethane	41.1 ug/L	1	ug/L	50.0	ug/L	82.2	40-125			
cis-1,2-Dichloroethylene	44.4 ug/L	1	ug/L	50.0	ug/L	88.7	70-125			
cis-1,3-Dichloropropene	48.2 ug/L	1	ug/L	50.0	ug/L	96.4	70-130			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

LCS (BGL0032-BS2)

Prepared & Analyzed: 12/04/2023

Dibromochloromethane	44.4 ug/L	0.5	ug/L	50.0	ug/L	88.8	60-135			
Dibromomethane	42.8 ug/L	1	ug/L	50.0	ug/L	85.6	75-125			
Dichlorodifluoromethane	51.6 ug/L	1	ug/L	50.0	ug/L	103	30-155			
Ethylbenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.3	75-125			
Hexachlorobutadiene	48.8 ug/L	0.8	ug/L	50.0	ug/L	97.6	50-140			
Isopropylbenzene	48.0 ug/L	1	ug/L	50.0	ug/L	96.0	75-125			
m+p-Xylenes	98.3 ug/L	2	ug/L	100	ug/L	98.3	75-130			
Methylene chloride	38.8 ug/L	4	ug/L	50.0	ug/L	77.7	55-140			
Methyl-t-butyl ether (MTBE)	39.8 ug/L	1	ug/L	50.0	ug/L	79.6	65-125			
Naphthalene	35.5 ug/L	1	ug/L	50.0	ug/L	71.0	55-140			
n-Butylbenzene	53.8 ug/L	1	ug/L	50.0	ug/L	108	70-135			
n-Propylbenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	70-130			
o-Xylene	48.1 ug/L	1	ug/L	50.0	ug/L	96.2	80-120			
sec-Butylbenzene	57.9 ug/L	1	ug/L	50.0	ug/L	116	70-125			
Styrene	46.3 ug/L	1	ug/L	50.0	ug/L	92.6	65-135			
tert-Butylbenzene	52.4 ug/L	1	ug/L	50.0	ug/L	105	70-130			
Tetrachloroethylene (PCE)	57.2 ug/L	1	ug/L	50.0	ug/L	114	45-150			
Toluene	49.4 ug/L	1	ug/L	50.0	ug/L	98.8	75-120			
trans-1,2-Dichloroethylene	43.1 ug/L	1	ug/L	50.0	ug/L	86.2	60-140			
trans-1,3-Dichloropropene	51.0 ug/L	1	ug/L	50.0	ug/L	102	55-140			
Trichloroethylene	50.2 ug/L	1	ug/L	50.0	ug/L	100	70-125			
Trichlorofluoromethane	59.1 ug/L	1	ug/L	50.0	ug/L	118	60-145			
Vinyl chloride	49.4 ug/L	0.5	ug/L	50.0	ug/L	98.7	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	45.4		ug/L	50.0	ug/L	90.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.4		ug/L	50.0	ug/L	96.7	75-120			
Surr: Dibromofluoromethane (Surr)	44.5		ug/L	50.0	ug/L	88.9	70-130			
Surr: Toluene-d8 (Surr)	48.3		ug/L	50.0	ug/L	96.6	70-130			



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Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Duplicate (BGL0032-DUP1)

Source: 23L0004-02

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40 ug/L				NA	30	
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40 ug/L				NA	30	
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Acetone	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Benzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromochloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Duplicate (BGL0032-DUP1)

Source: 23L0004-02

Prepared & Analyzed: 12/01/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Bromoform	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Carbon disulfide	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroform	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Chloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dibromochloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Dibromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Ethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L	<0.80 ug/L				NA	30	
Iodomethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Isopropylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
m+p-Xylenes	<2.00 ug/L	2.00	ug/L	<2.00 ug/L				NA	30	
Methylene chloride	<4.00 ug/L	4.00	ug/L	<4.00 ug/L				NA	30	
Methyl-t-butyl ether (MTBE)	20.2 ug/L	1.00	ug/L	19.8 ug/L				2.20	30	
Naphthalene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Propylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
o-Xylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Styrene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Toluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Duplicate (BGL0032-DUP1)

Source: 23L0004-02

Prepared & Analyzed: 12/01/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Vinyl acetate	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Vinyl chloride	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Xylenes, Total	<3.00 ug/L	3.00	ug/L	<3.00 ug/L				NA	30	
Tetrahydrofuran	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	44.9		ug/L	50.0 ug/L		89.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.6		ug/L	50.0 ug/L		97.3	75-120			
Surr: Dibromofluoromethane (Surr)	44.0		ug/L	50.0 ug/L		88.0	70-130			
Surr: Toluene-d8 (Surr)	49.1		ug/L	50.0 ug/L		98.2	70-130			

Matrix Spike (BGL0032-MS1)

Source: 23L0004-01

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	51.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	103	80-130			
1,1,1-Trichloroethane	49.0 ug/L	1	ug/L	50.0	<1 ug/L	97.9	65-130			
1,1,2,2-Tetrachloroethane	46.8 ug/L	0.4	ug/L	50.0	<0.4 ug/L	93.7	65-130			
1,1,2-Trichloroethane	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.6	75-125			
1,1-Dichloroethane	46.0 ug/L	1	ug/L	50.0	<1 ug/L	92.0	70-135			
1,1-Dichloroethylene	42.9 ug/L	1	ug/L	50.0	<1 ug/L	85.8	50-145			
1,1-Dichloropropene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-135			
1,2,3-Trichlorobenzene	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	55-140			
1,2,3-Trichloropropane	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.5	75-125			
1,2,4-Trichlorobenzene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	65-135			
1,2,4-Trimethylbenzene	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	43.2 ug/L	1	ug/L	50.0	<1 ug/L	86.3	50-130			
1,2-Dibromoethane (EDB)	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	80-120			
1,2-Dichlorobenzene	52.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	105	70-120			
1,2-Dichloroethane	42.2 ug/L	1	ug/L	50.0	<1 ug/L	84.4	70-130			
1,2-Dichloropropane	50.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	75-125			
1,3,5-Trimethylbenzene	53.7 ug/L	1	ug/L	50.0	<1 ug/L	107	75-124			
1,3-Dichlorobenzene	54.7 ug/L	1	ug/L	50.0	<1 ug/L	109	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Matrix Spike (BGL0032-MS1)

Source: 23L0004-01

Prepared & Analyzed: 12/01/2023

1,3-Dichloropropane	47.3 ug/L	1	ug/L	50.0	<1 ug/L	94.7	75-125			
1,4-Dichlorobenzene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
2,2-Dichloropropane	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.4	70-135			
2-Butanone (MEK)	34.2 ug/L	10	ug/L	50.0	<10 ug/L	68.5	30-150			
2-Chlorotoluene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125			
2-Hexanone (MBK)	43.3 ug/L	5	ug/L	50.0	<5 ug/L	86.6	55-130			
4-Chlorotoluene	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130			
4-Isopropyltoluene	59.8 ug/L	1	ug/L	50.0	<1 ug/L	120	75-130			
4-Methyl-2-pentanone (MIBK)	42.3 ug/L	5	ug/L	50.0	<5 ug/L	84.6	60-135			
Acetone	34.9 ug/L	10	ug/L	50.0	<10 ug/L	69.8	40-140			
Benzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	99.9	80-120			
Bromobenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
Bromochloromethane	44.9 ug/L	1	ug/L	50.0	<1 ug/L	89.7	65-130			
Bromodichloromethane	48.3 ug/L	0.5	ug/L	50.0	<0.5 ug/L	96.5	75-136			
Bromoform	48.3 ug/L	1	ug/L	50.0	<1 ug/L	96.7	70-130			
Bromomethane	27.6 ug/L	1	ug/L	50.0	<1 ug/L	55.1	30-145			
Carbon disulfide	35.9 ug/L	10	ug/L	50.0	<10 ug/L	71.7	35-160			
Carbon tetrachloride	57.2 ug/L	1	ug/L	50.0	<1 ug/L	114	65-140			
Chlorobenzene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120			
Chloroethane	42.4 ug/L	1	ug/L	50.0	<1 ug/L	84.8	60-135			
Chloroform	43.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	87.0	65-135			
Chloromethane	34.1 ug/L	1	ug/L	50.0	<1 ug/L	68.1	40-125			
cis-1,2-Dichloroethylene	45.0 ug/L	1	ug/L	50.0	<1 ug/L	90.1	70-125			
cis-1,3-Dichloropropene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	47-136			
Dibromochloromethane	49.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.5	60-135			
Dibromomethane	46.9 ug/L	1	ug/L	50.0	<1 ug/L	93.9	75-125			
Dichlorodifluoromethane	40.2 ug/L	1	ug/L	50.0	<1 ug/L	80.5	30-155			
Ethylbenzene	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
Hexachlorobutadiene	60.1 ug/L	0.8	ug/L	50.0	<0.8 ug/L	120	50-140			
Isopropylbenzene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
m+p-Xylenes	106 ug/L	2	ug/L	100	<2 ug/L	106	75-130			



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Certificate of Analysis

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Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0032 - SW5030B-MS

Matrix Spike (BGL0032-MS1)

Source: 23L0004-01

Prepared & Analyzed: 12/01/2023

Methylene chloride	39.6 ug/L	4	ug/L	50.0	<4 ug/L	79.2	55-140			
Methyl-t-butyl ether (MTBE)	42.1 ug/L	1	ug/L	50.0	<1 ug/L	84.1	65-125			
Naphthalene	47.1 ug/L	1	ug/L	50.0	<1 ug/L	94.1	55-140			
n-Butylbenzene	59.9 ug/L	1	ug/L	50.0	<1 ug/L	120	70-135			
n-Propylbenzene	56.9 ug/L	1	ug/L	50.0	<1 ug/L	114	70-130			
o-Xylene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120			
sec-Butylbenzene	64.9 ug/L	1	ug/L	50.0	<1 ug/L	130	70-125			M
Styrene	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	65-135			
tert-Butylbenzene	58.1 ug/L	1	ug/L	50.0	<1 ug/L	116	70-130			
Tetrachloroethylene (PCE)	57.9 ug/L	1	ug/L	50.0	<1 ug/L	116	51-231			
Toluene	51.8 ug/L	1	ug/L	50.0	<1 ug/L	104	75-120			
trans-1,2-Dichloroethylene	41.0 ug/L	1	ug/L	50.0	<1 ug/L	82.0	60-140			
trans-1,3-Dichloropropene	54.5 ug/L	1	ug/L	50.0	<1 ug/L	109	55-140			
Trichloroethylene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	70-125			
Trichlorofluoromethane	53.7 ug/L	1	ug/L	50.0	<1 ug/L	107	60-145			
Vinyl chloride	41.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	82.0	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	44.4		ug/L	50.0	ug/L	88.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.7		ug/L	50.0	ug/L	97.5	75-120			
Surr: Dibromofluoromethane (Surr)	44.3		ug/L	50.0	ug/L	88.6	70-130			
Surr: Toluene-d8 (Surr)	48.7		ug/L	50.0	ug/L	97.3	70-130			

Batch BGL0041 - SW5030B-MS

Blank (BGL0041-BLK1)

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							



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 Cove

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Blank (BGL0041-BLK1)

Prepared & Analyzed: 12/01/2023

1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							
Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Blank (BGL0041-BLK1)

Prepared & Analyzed: 12/01/2023

Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Blank (BGL0041-BLK1)

Prepared & Analyzed: 12/01/2023

Surr: 1,2-Dichloroethane-d4 (Surr)	46.3		ug/L	50.0		92.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.1		ug/L	50.0		98.2	75-120			
Surr: Dibromofluoromethane (Surr)	47.0		ug/L	50.0		94.1	70-130			
Surr: Toluene-d8 (Surr)	49.3		ug/L	50.0		98.6	70-130			

LCS (BGL0041-BS1)

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	48.0 ug/L	0.4	ug/L	50.0	ug/L	96.1	80-130			
1,1,1-Trichloroethane	47.2 ug/L	1	ug/L	50.0	ug/L	94.4	65-130			
1,1,2,2-Tetrachloroethane	48.0 ug/L	0.4	ug/L	50.0	ug/L	95.9	65-130			
1,1,2-Trichloroethane	48.8 ug/L	1	ug/L	50.0	ug/L	97.6	75-125			
1,1-Dichloroethane	46.5 ug/L	1	ug/L	50.0	ug/L	93.0	70-135			
1,1-Dichloroethylene	44.7 ug/L	1	ug/L	50.0	ug/L	89.3	70-130			
1,1-Dichloropropene	50.1 ug/L	1	ug/L	50.0	ug/L	100	75-135			
1,2,3-Trichlorobenzene	47.3 ug/L	1	ug/L	50.0	ug/L	94.6	55-140			
1,2,3-Trichloropropane	46.5 ug/L	1	ug/L	50.0	ug/L	92.9	75-125			
1,2,4-Trichlorobenzene	49.6 ug/L	1	ug/L	50.0	ug/L	99.1	65-135			
1,2,4-Trimethylbenzene	49.8 ug/L	1	ug/L	50.0	ug/L	99.5	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	45.3 ug/L	1	ug/L	50.0	ug/L	90.6	50-130			
1,2-Dibromoethane (EDB)	47.4 ug/L	1	ug/L	50.0	ug/L	94.7	80-120			
1,2-Dichlorobenzene	50.6 ug/L	0.5	ug/L	50.0	ug/L	101	70-120			
1,2-Dichloroethane	42.8 ug/L	1	ug/L	50.0	ug/L	85.7	70-130			
1,2-Dichloropropane	47.6 ug/L	0.5	ug/L	50.0	ug/L	95.3	75-125			
1,3,5-Trimethylbenzene	48.0 ug/L	1	ug/L	50.0	ug/L	95.9	75-125			
1,3-Dichlorobenzene	50.0 ug/L	1	ug/L	50.0	ug/L	100	75-125			
1,3-Dichloropropane	46.3 ug/L	1	ug/L	50.0	ug/L	92.7	75-125			
1,4-Dichlorobenzene	48.2 ug/L	1	ug/L	50.0	ug/L	96.3	75-125			
2,2-Dichloropropane	48.7 ug/L	1	ug/L	50.0	ug/L	97.4	70-135			
2-Butanone (MEK)	43.5 ug/L	10	ug/L	50.0	ug/L	87.0	30-150			
2-Chlorotoluene	50.6 ug/L	1	ug/L	50.0	ug/L	101	75-125			
2-Hexanone (MBK)	50.0 ug/L	5	ug/L	50.0	ug/L	99.9	55-130			
4-Chlorotoluene	49.4 ug/L	1	ug/L	50.0	ug/L	98.8	75-130			
4-Isopropyltoluene	53.3 ug/L	1	ug/L	50.0	ug/L	107	75-130			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

LCS (BGL0041-BS1)

Prepared & Analyzed: 12/01/2023

4-Methyl-2-pentanone (MIBK)	49.2 ug/L	5	ug/L	50.0	ug/L	98.4	60-135			
Acetone	41.9 ug/L	10	ug/L	50.0	ug/L	83.8	40-140			
Benzene	47.1 ug/L	1	ug/L	50.0	ug/L	94.3	80-120			
Bromobenzene	49.2 ug/L	1	ug/L	50.0	ug/L	98.4	75-125			
Bromochloromethane	42.2 ug/L	1	ug/L	50.0	ug/L	84.4	65-130			
Bromodichloromethane	49.1 ug/L	0.5	ug/L	50.0	ug/L	98.2	75-120			
Bromoform	45.6 ug/L	1	ug/L	50.0	ug/L	91.1	70-130			
Bromomethane	34.4 ug/L	1	ug/L	50.0	ug/L	68.9	30-145			
Carbon disulfide	40.1 ug/L	10	ug/L	50.0	ug/L	80.2	35-160			
Carbon tetrachloride	55.3 ug/L	1	ug/L	50.0	ug/L	111	65-140			
Chlorobenzene	49.4 ug/L	1	ug/L	50.0	ug/L	98.9	80-120			
Chloroethane	42.8 ug/L	1	ug/L	50.0	ug/L	85.6	60-135			
Chloroform	44.6 ug/L	0.5	ug/L	50.0	ug/L	89.2	65-135			
Chloromethane	39.5 ug/L	1	ug/L	50.0	ug/L	79.0	40-125			
cis-1,2-Dichloroethylene	44.2 ug/L	1	ug/L	50.0	ug/L	88.5	70-125			
cis-1,3-Dichloropropene	47.6 ug/L	1	ug/L	50.0	ug/L	95.1	70-130			
Dibromochloromethane	48.3 ug/L	0.5	ug/L	50.0	ug/L	96.7	60-135			
Dibromomethane	47.0 ug/L	1	ug/L	50.0	ug/L	94.0	75-125			
Dichlorodifluoromethane	47.3 ug/L	1	ug/L	50.0	ug/L	94.6	30-155			
Ethylbenzene	51.3 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Hexachlorobutadiene	52.6 ug/L	0.8	ug/L	50.0	ug/L	105	50-140			
Isopropylbenzene	49.8 ug/L	1	ug/L	50.0	ug/L	99.6	75-125			
m+p-Xylenes	103 ug/L	2	ug/L	100	ug/L	103	75-130			
Methylene chloride	43.2 ug/L	4	ug/L	50.0	ug/L	86.4	55-140			
Methyl-t-butyl ether (MTBE)	40.6 ug/L	1	ug/L	50.0	ug/L	81.2	65-125			
Naphthalene	45.7 ug/L	1	ug/L	50.0	ug/L	91.5	55-140			
n-Butylbenzene	53.6 ug/L	1	ug/L	50.0	ug/L	107	70-135			
n-Propylbenzene	52.7 ug/L	1	ug/L	50.0	ug/L	105	70-130			
o-Xylene	50.3 ug/L	1	ug/L	50.0	ug/L	101	80-120			
sec-Butylbenzene	57.2 ug/L	1	ug/L	50.0	ug/L	114	70-125			
Styrene	47.5 ug/L	1	ug/L	50.0	ug/L	95.0	65-135			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

LCS (BGL0041-BS1)

Prepared & Analyzed: 12/01/2023

tert-Butylbenzene	51.7 ug/L	1	ug/L	50.0	ug/L	103	70-130			
Tetrachloroethylene (PCE)	55.9 ug/L	1	ug/L	50.0	ug/L	112	45-150			
Toluene	49.8 ug/L	1	ug/L	50.0	ug/L	99.6	75-120			
trans-1,2-Dichloroethylene	43.4 ug/L	1	ug/L	50.0	ug/L	86.9	60-140			
trans-1,3-Dichloropropene	50.0 ug/L	1	ug/L	50.0	ug/L	99.9	55-140			
Trichloroethylene	50.2 ug/L	1	ug/L	50.0	ug/L	100	70-125			
Trichlorofluoromethane	53.8 ug/L	1	ug/L	50.0	ug/L	108	60-145			
Vinyl chloride	44.5 ug/L	0.5	ug/L	50.0	ug/L	89.1	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	48.8		ug/L	50.0	ug/L	97.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.9		ug/L	50.0	ug/L	97.8	75-120			
Surr: Dibromofluoromethane (Surr)	47.6		ug/L	50.0	ug/L	95.1	70-130			
Surr: Toluene-d8 (Surr)	49.9		ug/L	50.0	ug/L	99.8	70-130			

Matrix Spike (BGL0041-MS1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	47.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	95.3	80-130			
1,1,1-Trichloroethane	47.1 ug/L	1	ug/L	50.0	<1 ug/L	94.2	65-130			
1,1,2,2-Tetrachloroethane	49.3 ug/L	0.4	ug/L	50.0	<0.4 ug/L	98.7	65-130			
1,1,2-Trichloroethane	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	75-125			
1,1-Dichloroethane	46.0 ug/L	1	ug/L	50.0	<1 ug/L	92.1	70-135			
1,1-Dichloroethylene	44.7 ug/L	1	ug/L	50.0	<1 ug/L	89.5	50-145			
1,1-Dichloropropene	49.1 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-135			
1,2,3-Trichlorobenzene	51.8 ug/L	1	ug/L	50.0	<1 ug/L	104	55-140			
1,2,3-Trichloropropane	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	75-125			
1,2,4-Trichlorobenzene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	65-135			
1,2,4-Trimethylbenzene	50.4 ug/L	1	ug/L	50.0	<1 ug/L	101	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	48.0 ug/L	1	ug/L	50.0	<1 ug/L	96.0	50-130			
1,2-Dibromoethane (EDB)	47.4 ug/L	1	ug/L	50.0	<1 ug/L	94.8	80-120			
1,2-Dichlorobenzene	49.3 ug/L	0.5	ug/L	50.0	<0.5 ug/L	98.7	70-120			
1,2-Dichloroethane	43.0 ug/L	1	ug/L	50.0	<1 ug/L	86.1	70-130			
1,2-Dichloropropane	47.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.0	75-125			
1,3,5-Trimethylbenzene	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	75-124			
1,3-Dichlorobenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125			



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Certificate of Analysis

Final Report

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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Matrix Spike (BGL0041-MS1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

1,3-Dichloropropane	45.0 ug/L	1	ug/L	50.0	<1 ug/L	89.9	75-125			
1,4-Dichlorobenzene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.5	75-125			
2,2-Dichloropropane	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.0	70-135			
2-Butanone (MEK)	44.7 ug/L	10	ug/L	50.0	<10 ug/L	89.4	30-150			
2-Chlorotoluene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
2-Hexanone (MBK)	47.3 ug/L	5	ug/L	50.0	<5 ug/L	94.7	55-130			
4-Chlorotoluene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.6	75-130			
4-Isopropyltoluene	54.2 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130			
4-Methyl-2-pentanone (MIBK)	46.2 ug/L	5	ug/L	50.0	<5 ug/L	92.4	60-135			
Acetone	38.3 ug/L	10	ug/L	50.0	<10 ug/L	76.6	40-140			
Benzene	46.0 ug/L	1	ug/L	50.0	<1 ug/L	91.9	80-120			
Bromobenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.1	75-125			
Bromochloromethane	42.4 ug/L	1	ug/L	50.0	<1 ug/L	84.9	65-130			
Bromodichloromethane	47.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	95.5	75-136			
Bromoform	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.1	70-130			
Bromomethane	33.7 ug/L	1	ug/L	50.0	<1 ug/L	67.5	30-145			
Carbon disulfide	41.5 ug/L	10	ug/L	50.0	<10 ug/L	83.0	35-160			
Carbon tetrachloride	54.5 ug/L	1	ug/L	50.0	<1 ug/L	109	65-140			
Chlorobenzene	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	80-120			
Chloroethane	40.8 ug/L	1	ug/L	50.0	<1 ug/L	81.5	60-135			
Chloroform	44.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	88.1	65-135			
Chloromethane	39.6 ug/L	1	ug/L	50.0	<1 ug/L	79.3	40-125			
cis-1,2-Dichloroethylene	44.2 ug/L	1	ug/L	50.0	<1 ug/L	88.4	70-125			
cis-1,3-Dichloropropene	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.7	47-136			
Dibromochloromethane	47.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	95.8	60-135			
Dibromomethane	45.5 ug/L	1	ug/L	50.0	<1 ug/L	91.1	75-125			
Dichlorodifluoromethane	47.4 ug/L	1	ug/L	50.0	<1 ug/L	94.7	30-155			
Ethylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125			
Hexachlorobutadiene	56.7 ug/L	0.8	ug/L	50.0	<0.8 ug/L	113	50-140			
Isopropylbenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	75-125			
m+p-Xylenes	103 ug/L	2	ug/L	100	<2 ug/L	103	75-130			



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Certificate of Analysis

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Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Matrix Spike (BGL0041-MS1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

Methylene chloride	43.1 ug/L	4	ug/L	50.0	<4 ug/L	86.3	55-140			
Methyl-t-butyl ether (MTBE)	40.9 ug/L	1	ug/L	50.0	<1 ug/L	81.8	65-125			
Naphthalene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	55-140			
n-Butylbenzene	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	70-135			
n-Propylbenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	70-130			
o-Xylene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
sec-Butylbenzene	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-125			
Styrene	47.4 ug/L	1	ug/L	50.0	<1 ug/L	94.8	65-135			
tert-Butylbenzene	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	70-130			
Tetrachloroethylene (PCE)	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	51-231			
Toluene	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.0	75-120			
trans-1,2-Dichloroethylene	42.6 ug/L	1	ug/L	50.0	<1 ug/L	85.3	60-140			
trans-1,3-Dichloropropene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.5	55-140			
Trichloroethylene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	70-125			
Trichlorofluoromethane	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	60-145			
Vinyl chloride	44.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	89.6	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	47.1		ug/L	50.0	ug/L	94.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.3		ug/L	50.0	ug/L	98.6	75-120			
Surr: Dibromofluoromethane (Surr)	47.9		ug/L	50.0	ug/L	95.7	70-130			
Surr: Toluene-d8 (Surr)	49.4		ug/L	50.0	ug/L	98.9	70-130			

Matrix Spike Dup (BGL0041-MSD1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

1,1,1,2-Tetrachloroethane	50.6 ug/L	0.4	ug/L	50.0	<0.4 ug/L	101	80-130	6.00	30	
1,1,1-Trichloroethane	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.5	65-130	4.40	30	
1,1,2,2-Tetrachloroethane	50.4 ug/L	0.4	ug/L	50.0	<0.4 ug/L	101	65-130	2.22	30	
1,1,2-Trichloroethane	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125	4.10	30	
1,1-Dichloroethane	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.4	70-135	4.56	30	
1,1-Dichloroethylene	46.3 ug/L	1	ug/L	50.0	<1 ug/L	92.5	50-145	3.34	30	
1,1-Dichloropropene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	75-135	4.74	30	
1,2,3-Trichlorobenzene	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	55-140	4.51	30	
1,2,3-Trichloropropane	49.5 ug/L	1	ug/L	50.0	<1 ug/L	99.0	75-125	1.84	30	
1,2,4-Trichlorobenzene	55.2 ug/L	1	ug/L	50.0	<1 ug/L	110	65-135	6.90	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Matrix Spike Dup (BGL0041-MSD1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

1,2,4-Trimethylbenzene	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130	7.10	30	
1,2-Dibromo-3-chloropropane (DBCP)	46.9 ug/L	1	ug/L	50.0	<1 ug/L	93.8	50-130	2.26	30	
1,2-Dibromoethane (EDB)	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.6	80-120	4.94	30	
1,2-Dichlorobenzene	52.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	70-120	5.60	30	
1,2-Dichloroethane	44.8 ug/L	1	ug/L	50.0	<1 ug/L	89.7	70-130	4.10	30	
1,2-Dichloropropane	50.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	102	75-125	7.67	30	
1,3,5-Trimethylbenzene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-124	6.99	30	
1,3-Dichlorobenzene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125	6.10	30	
1,3-Dichloropropane	47.9 ug/L	1	ug/L	50.0	<1 ug/L	95.8	75-125	6.29	30	
1,4-Dichlorobenzene	51.8 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125	6.09	30	
2,2-Dichloropropane	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	70-135	3.04	30	
2-Butanone (MEK)	36.0 ug/L	10	ug/L	50.0	<10 ug/L	71.9	30-150	21.6	30	
2-Chlorotoluene	54.0 ug/L	1	ug/L	50.0	<1 ug/L	108	75-125	6.06	30	
2-Hexanone (MBK)	45.5 ug/L	5	ug/L	50.0	<5 ug/L	90.9	55-130	4.03	30	
4-Chlorotoluene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130	5.66	30	
4-Isopropyltoluene	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	75-130	4.19	30	
4-Methyl-2-pentanone (MIBK)	45.2 ug/L	5	ug/L	50.0	<5 ug/L	90.5	60-135	2.14	30	
Acetone	36.9 ug/L	10	ug/L	50.0	<10 ug/L	73.7	40-140	3.88	30	
Benzene	47.8 ug/L	1	ug/L	50.0	<1 ug/L	95.6	80-120	3.95	30	
Bromobenzene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125	6.77	30	
Bromochloromethane	44.8 ug/L	1	ug/L	50.0	<1 ug/L	89.5	65-130	5.30	30	
Bromodichloromethane	51.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-136	8.04	30	
Bromoform	48.9 ug/L	1	ug/L	50.0	<1 ug/L	97.8	70-130	4.92	30	
Bromomethane	37.7 ug/L	1	ug/L	50.0	<1 ug/L	75.3	30-145	11.0	30	
Carbon disulfide	38.3 ug/L	10	ug/L	50.0	<10 ug/L	76.5	35-160	8.10	30	
Carbon tetrachloride	57.4 ug/L	1	ug/L	50.0	<1 ug/L	115	65-140	5.15	30	
Chlorobenzene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120	7.19	30	
Chloroethane	44.2 ug/L	1	ug/L	50.0	<1 ug/L	88.5	60-135	8.21	30	
Chloroform	46.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	93.0	65-135	5.41	30	
Chloromethane	40.1 ug/L	1	ug/L	50.0	<1 ug/L	80.2	40-125	1.18	30	
cis-1,2-Dichloroethylene	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.7	70-125	3.64	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0041 - SW5030B-MS

Matrix Spike Dup (BGL0041-MSD1)

Source: 23K1462-01

Prepared & Analyzed: 12/01/2023

cis-1,3-Dichloropropene	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.9	47-136	6.43	30	
Dibromochloromethane	50.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	102	60-135	6.01	30	
Dibromomethane	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.4	75-125	5.63	30	
Dichlorodifluoromethane	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.7	30-155	3.10	30	
Ethylbenzene	54.7 ug/L	1	ug/L	50.0	<1 ug/L	109	75-125	6.18	30	
Hexachlorobutadiene	59.5 ug/L	0.8	ug/L	50.0	<0.8 ug/L	119	50-140	4.78	30	
Isopropylbenzene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125	6.42	30	
m+p-Xylenes	109 ug/L	2	ug/L	100	<2 ug/L	109	75-130	5.49	30	
Methylene chloride	44.9 ug/L	4	ug/L	50.0	<4 ug/L	89.9	55-140	4.11	30	
Methyl-t-butyl ether (MTBE)	42.7 ug/L	1	ug/L	50.0	<1 ug/L	85.3	65-125	4.21	30	
Naphthalene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	55-140	1.95	30	
n-Butylbenzene	57.7 ug/L	1	ug/L	50.0	<1 ug/L	115	70-135	6.07	30	
n-Propylbenzene	56.5 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130	7.78	30	
o-Xylene	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	80-120	5.52	30	
sec-Butylbenzene	60.7 ug/L	1	ug/L	50.0	<1 ug/L	121	70-125	6.95	30	
Styrene	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	65-135	6.31	30	
tert-Butylbenzene	55.8 ug/L	1	ug/L	50.0	<1 ug/L	112	70-130	6.22	30	
Tetrachloroethylene (PCE)	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	51-231	4.72	30	
Toluene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-120	6.38	30	
trans-1,2-Dichloroethylene	45.7 ug/L	1	ug/L	50.0	<1 ug/L	91.4	60-140	6.95	30	
trans-1,3-Dichloropropene	51.8 ug/L	1	ug/L	50.0	<1 ug/L	104	55-140	4.11	30	
Trichloroethylene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	70-125	3.01	30	
Trichlorofluoromethane	55.4 ug/L	1	ug/L	50.0	<1 ug/L	111	60-145	2.06	30	
Vinyl chloride	46.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	92.8	50-145	3.60	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	46.3		ug/L	50.0	ug/L	92.6	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.0		ug/L	50.0	ug/L	100	75-120			
Surr: Dibromofluoromethane (Surr)	47.0		ug/L	50.0	ug/L	94.0	70-130			
Surr: Toluene-d8 (Surr)	49.6		ug/L	50.0	ug/L	99.2	70-130			



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

Blank (BGL0081-BLK1)

Prepared & Analyzed: 12/04/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

Blank (BGL0081-BLK1)

Prepared & Analyzed: 12/04/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

Blank (BGL0081-BLK1)

Prepared & Analyzed: 12/04/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
<hr/>										
Surr: 2,4,6-Tribromophenol (Surr)	69.9		ug/L	100		69.9	5-136			
Surr: 2-Fluorobiphenyl (Surr)	35.3		ug/L	50.0		70.6	9-117			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

Blank (BGL0081-BLK1)

Prepared & Analyzed: 12/04/2023

Surr: 2-Fluorophenol (Surr)	50.6	ug/L	100	50.6	5-60
Surr: Nitrobenzene-d5 (Surr)	35.4	ug/L	50.0	70.8	5-151
Surr: Phenol-d5 (Surr)	30.6	ug/L	100	30.6	5-60
Surr: p-Terphenyl-d14 (Surr)	34.2	ug/L	50.0	68.4	5-141

LCS (BGL0081-BS1)

Prepared & Analyzed: 12/04/2023

1,2,4-Trichlorobenzene	33.2 ug/L	10.0	ug/L	50.0 ug/L	66.4 57-130
1,2-Dichlorobenzene	33.2 ug/L	10.0	ug/L	50.0 ug/L	66.4 22-115
1,3-Dichlorobenzene	31.7 ug/L	10.0	ug/L	50.0 ug/L	63.5 22-112
1,4-Dichlorobenzene	33.6 ug/L	10.0	ug/L	50.0 ug/L	67.2 13-112
2,4,6-Trichlorophenol	39.2 ug/L	10.0	ug/L	50.0 ug/L	78.4 52-129
2,4-Dichlorophenol	38.7 ug/L	10.0	ug/L	50.0 ug/L	77.4 53-122
2,4-Dimethylphenol	39.8 ug/L	5.00	ug/L	50.0 ug/L	79.5 42-120
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0 ug/L	55.5 48-127
2,4-Dinitrotoluene	41.1 ug/L	10.0	ug/L	50.0 ug/L	82.2 10-173
2,6-Dinitrotoluene	35.9 ug/L	10.0	ug/L	50.0 ug/L	71.7 68-137
2-Chloronaphthalene	35.5 ug/L	10.0	ug/L	50.0 ug/L	71.0 65-120
2-Chlorophenol	34.2 ug/L	10.0	ug/L	50.0 ug/L	68.4 36-120
2-Nitrophenol	39.4 ug/L	10.0	ug/L	50.0 ug/L	78.8 45-167
3,3'-Dichlorobenzidine	38.2 ug/L	10.0	ug/L	50.0 ug/L	76.3 10-213
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0 ug/L	62.5 53-130
4-Bromophenyl phenyl ether	35.9 ug/L	10.0	ug/L	50.0 ug/L	71.8 65-120
4-Chlorophenyl phenyl ether	32.5 ug/L	10.0	ug/L	50.0 ug/L	65.1 38-145
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0 ug/L	23.3 13-129
Acenaphthene	37.0 ug/L	10.0	ug/L	50.0 ug/L	74.1 60-132
Acenaphthylene	38.8 ug/L	10.0	ug/L	50.0 ug/L	77.6 54-126
Acetophenone	34.2 ug/L	20.0	ug/L	50.0 ug/L	68.4 0-200
Anthracene	38.9 ug/L	10.0	ug/L	50.0 ug/L	77.8 43-120
Benzo (a) anthracene	41.5 ug/L	10.0	ug/L	50.0 ug/L	83.0 42-133
Benzo (a) pyrene	42.1 ug/L	10.0	ug/L	50.0 ug/L	84.2 32-148
Benzo (b) fluoranthene	37.3 ug/L	10.0	ug/L	50.0 ug/L	74.7 42-140
Benzo (g,h,i) perylene	47.0 ug/L	10.0	ug/L	50.0 ug/L	94.0 10-195



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Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

LCS (BGL0081-BS1)

Prepared & Analyzed: 12/04/2023

Benzo (k) fluoranthene	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.7	25-146			
bis (2-Chloroethoxy) methane	37.5 ug/L	10.0	ug/L	50.0	ug/L	75.0	49-165			
bis (2-Chloroethyl) ether	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.7	43-126			
2,2'-Oxybis (1-chloropropane)	36.0 ug/L	10.0	ug/L	50.0	ug/L	71.9	63-139			
bis (2-Ethylhexyl) phthalate	42.9 ug/L	10.0	ug/L	50.0	ug/L	85.9	29-137			
Butyl benzyl phthalate	46.2 ug/L	10.0	ug/L	50.0	ug/L	92.4	10-140			
Chrysene	40.0 ug/L	10.0	ug/L	50.0	ug/L	79.9	44-140			
Dibenz (a,h) anthracene	46.8 ug/L	10.0	ug/L	50.0	ug/L	93.7	10-200			
Diethyl phthalate	37.5 ug/L	10.0	ug/L	50.0	ug/L	75.1	10-120			
Dimethyl phthalate	34.2 ug/L	10.0	ug/L	50.0	ug/L	68.3	10-120			
Di-n-butyl phthalate	36.4 ug/L	10.0	ug/L	50.0	ug/L	72.7	10-120			
Di-n-octyl phthalate	37.4 ug/L	10.0	ug/L	50.0	ug/L	74.7	19-132			
Fluoranthene	37.4 ug/L	10.0	ug/L	50.0	ug/L	74.9	43-121			
Fluorene	37.5 ug/L	10.0	ug/L	50.0	ug/L	75.1	70-120			
Hexachlorobenzene	29.4 ug/L	1.00	ug/L	50.0	ug/L	58.8	10-142			
Hexachlorobutadiene	35.4 ug/L	10.0	ug/L	50.0	ug/L	70.8	38-120			
Hexachlorocyclopentadiene	11.6 ug/L	10.0	ug/L	50.0	ug/L	23.2	10-76			
Hexachloroethane	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.2	55-120			
Indeno (1,2,3-cd) pyrene	44.0 ug/L	10.0	ug/L	50.0	ug/L	88.1	10-151			
Isophorone	26.7 ug/L	10.0	ug/L	50.0	ug/L	53.3	47-180			
Naphthalene	38.7 ug/L	5.00	ug/L	50.0	ug/L	77.3	36-120			
Nitrobenzene	36.6 ug/L	10.0	ug/L	50.0	ug/L	73.2	54-158			
n-Nitrosodimethylamine	27.5 ug/L	10.0	ug/L	50.0	ug/L	55.0	10-85			
n-Nitrosodi-n-propylamine	33.9 ug/L	10.0	ug/L	50.0	ug/L	67.8	14-198			
n-Nitrosodiphenylamine	30.9 ug/L	10.0	ug/L	50.0	ug/L	61.8	12-97			
p-Chloro-m-cresol	38.6 ug/L	10.0	ug/L	50.0	ug/L	77.2	10-142			
Pentachlorophenol	28.2 ug/L	20.0	ug/L	50.0	ug/L	56.5	38-152			
Phenanthrene	43.7 ug/L	10.0	ug/L	50.0	ug/L	87.3	65-120			
Phenol	14.9 ug/L	10.0	ug/L	50.5	ug/L	29.5	17-120			
Pyrene	36.4 ug/L	10.0	ug/L	50.0	ug/L	72.7	70-120			
Pyridine	38.1 ug/L	10.0	ug/L	50.0	ug/L	76.3	10-103			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0081 - SW3510C/EPA600-MS

LCS (BGL0081-BS1)

Prepared & Analyzed: 12/04/2023

Surr: 2,4,6-Tribromophenol (Surr)	84.7		ug/L	100	ug/L	84.7	5-136			
Surr: 2-Fluorobiphenyl (Surr)	35.2		ug/L	50.0	ug/L	70.4	9-117			
Surr: 2-Fluorophenol (Surr)	53.4		ug/L	100	ug/L	53.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	37.2		ug/L	50.0	ug/L	74.5	5-151			
Surr: Phenol-d5 (Surr)	33.0		ug/L	100	ug/L	33.0	5-60			
Surr: p-Terphenyl-d14 (Surr)	38.2		ug/L	50.0	ug/L	76.3	5-141			

Batch BGL0124 - SW3510C/EPA600-MS

Blank (BGL0124-BLK1)

Prepared & Analyzed: 12/05/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0124 - SW3510C/EPA600-MS

Blank (BGL0124-BLK1)

Prepared & Analyzed: 12/05/2023

2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0124 - SW3510C/EPA600-MS

Blank (BGL0124-BLK1)

Prepared & Analyzed: 12/05/2023

Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							
Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 06, 2023 15:35
 Project Number: [none]
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0124 - SW3510C/EPA600-MS

Blank (BGL0124-BLK1)

Prepared & Analyzed: 12/05/2023

Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							

Surr: 2,4,6-Tribromophenol (Surr)	82.5		ug/L	100		82.5	5-136			
Surr: 2-Fluorobiphenyl (Surr)	41.2		ug/L	50.0		82.4	9-117			
Surr: 2-Fluorophenol (Surr)	65.9		ug/L	100		65.9	5-60			S
Surr: Nitrobenzene-d5 (Surr)	42.7		ug/L	50.0		85.4	5-151			
Surr: Phenol-d5 (Surr)	39.2		ug/L	100		39.2	5-60			
Surr: p-Terphenyl-d14 (Surr)	41.9		ug/L	50.0		83.9	5-141			

LCS (BGL0124-BS1)

Prepared & Analyzed: 12/05/2023

1,2,4-Trichlorobenzene	32.8 ug/L	10.0	ug/L	50.0	ug/L	65.5	57-130			
1,2-Dichlorobenzene	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.6	22-115			
1,3-Dichlorobenzene	33.6 ug/L	10.0	ug/L	50.0	ug/L	67.1	22-112			
1,4-Dichlorobenzene	35.4 ug/L	10.0	ug/L	50.0	ug/L	70.9	13-112			
2,4,6-Trichlorophenol	41.6 ug/L	10.0	ug/L	50.0	ug/L	83.2	52-129			
2,4-Dichlorophenol	38.8 ug/L	10.0	ug/L	50.0	ug/L	77.7	53-122			
2,4-Dimethylphenol	39.7 ug/L	5.00	ug/L	50.0	ug/L	79.5	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	46.5	48-127			L
2,4-Dinitrotoluene	42.0 ug/L	10.0	ug/L	50.0	ug/L	84.0	10-173			
2,6-Dinitrotoluene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	68-137			
2-Chloronaphthalene	36.9 ug/L	10.0	ug/L	50.0	ug/L	73.8	65-120			
2-Chlorophenol	36.3 ug/L	10.0	ug/L	50.0	ug/L	72.6	36-120			
2-Nitrophenol	39.7 ug/L	10.0	ug/L	50.0	ug/L	79.3	45-167			
3,3'-Dichlorobenzidine	36.6 ug/L	10.0	ug/L	50.0	ug/L	73.1	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	48.5	53-130			L
4-Bromophenyl phenyl ether	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.7	65-120			



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Date Issued: December 06, 2023 15:35
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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0124 - SW3510C/EPA600-MS

LCS (BGL0124-BS1)

Prepared & Analyzed: 12/05/2023

4-Chlorophenyl phenyl ether	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.8	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	27.9	13-129			
Acenaphthene	38.4 ug/L	10.0	ug/L	50.0	ug/L	76.7	60-132			
Acenaphthylene	41.0 ug/L	10.0	ug/L	50.0	ug/L	82.1	54-126			
Acetophenone	36.3 ug/L	20.0	ug/L	50.0	ug/L	72.6	0-200			
Anthracene	41.2 ug/L	10.0	ug/L	50.0	ug/L	82.4	43-120			
Benzo (a) anthracene	41.8 ug/L	10.0	ug/L	50.0	ug/L	83.6	42-133			
Benzo (a) pyrene	43.3 ug/L	10.0	ug/L	50.0	ug/L	86.7	32-148			
Benzo (b) fluoranthene	45.4 ug/L	10.0	ug/L	50.0	ug/L	90.8	42-140			
Benzo (g,h,i) perylene	34.5 ug/L	10.0	ug/L	50.0	ug/L	69.0	10-195			
Benzo (k) fluoranthene	41.9 ug/L	10.0	ug/L	50.0	ug/L	83.7	25-146			
bis (2-Chloroethoxy) methane	37.0 ug/L	10.0	ug/L	50.0	ug/L	73.9	49-165			
bis (2-Chloroethyl) ether	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.0	43-126			
2,2'-Oxybis (1-chloropropane)	37.8 ug/L	10.0	ug/L	50.0	ug/L	75.7	63-139			
bis (2-Ethylhexyl) phthalate	41.2 ug/L	10.0	ug/L	50.0	ug/L	82.4	29-137			
Butyl benzyl phthalate	41.1 ug/L	10.0	ug/L	50.0	ug/L	82.2	10-140			
Chrysene	41.8 ug/L	10.0	ug/L	50.0	ug/L	83.5	44-140			
Dibenz (a,h) anthracene	38.3 ug/L	10.0	ug/L	50.0	ug/L	76.6	10-200			
Diethyl phthalate	39.2 ug/L	10.0	ug/L	50.0	ug/L	78.4	10-120			
Dimethyl phthalate	35.5 ug/L	10.0	ug/L	50.0	ug/L	71.0	10-120			
Di-n-butyl phthalate	41.5 ug/L	10.0	ug/L	50.0	ug/L	83.1	10-120			
Di-n-octyl phthalate	44.9 ug/L	10.0	ug/L	50.0	ug/L	89.8	19-132			
Fluoranthene	43.9 ug/L	10.0	ug/L	50.0	ug/L	87.9	43-121			
Fluorene	39.0 ug/L	10.0	ug/L	50.0	ug/L	78.1	70-120			
Hexachlorobenzene	28.5 ug/L	1.00	ug/L	50.0	ug/L	57.0	10-142			
Hexachlorobutadiene	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.5	38-120			
Hexachlorocyclopentadiene	11.8 ug/L	10.0	ug/L	50.0	ug/L	23.7	10-76			
Hexachloroethane	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.5	55-120			
Indeno (1,2,3-cd) pyrene	35.1 ug/L	10.0	ug/L	50.0	ug/L	70.2	10-151			
Isophorone	25.8 ug/L	10.0	ug/L	50.0	ug/L	51.7	47-180			
Naphthalene	39.8 ug/L	5.00	ug/L	50.0	ug/L	79.6	36-120			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0124 - SW3510C/EPA600-MS

LCS (BGL0124-BS1)

Prepared & Analyzed: 12/05/2023

Nitrobenzene	39.4 ug/L	10.0	ug/L	50.0	ug/L	78.8	54-158			
n-Nitrosodimethylamine	24.0 ug/L	10.0	ug/L	50.0	ug/L	47.9	10-85			
n-Nitrosodi-n-propylamine	35.9 ug/L	10.0	ug/L	50.0	ug/L	71.8	14-198			
n-Nitrosodiphenylamine	32.2 ug/L	10.0	ug/L	50.0	ug/L	64.4	12-97			
p-Chloro-m-cresol	38.8 ug/L	10.0	ug/L	50.0	ug/L	77.5	10-142			
Pentachlorophenol	34.6 ug/L	20.0	ug/L	50.0	ug/L	69.2	38-152			
Phenanthrene	47.3 ug/L	10.0	ug/L	50.0	ug/L	94.6	65-120			
Phenol	15.7 ug/L	10.0	ug/L	50.5	ug/L	31.0	17-120			
Pyrene	36.8 ug/L	10.0	ug/L	50.0	ug/L	73.6	70-120			
Pyridine	30.0 ug/L	10.0	ug/L	50.0	ug/L	59.9	10-103			

Surr: 2,4,6-Tribromophenol (Surr)	90.0		ug/L	100	ug/L	90.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	37.4		ug/L	50.0	ug/L	74.8	9-117			
Surr: 2-Fluorophenol (Surr)	45.9		ug/L	100	ug/L	45.9	5-60			
Surr: Nitrobenzene-d5 (Surr)	40.7		ug/L	50.0	ug/L	81.4	5-151			
Surr: Phenol-d5 (Surr)	35.8		ug/L	100	ug/L	35.8	5-60			
Surr: p-Terphenyl-d14 (Surr)	38.3		ug/L	50.0	ug/L	76.5	5-141			



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Summary of Data Qualifiers

C Continuing calibration verification response for this analyte is outside specifications.

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

PAGE 2 OF 2

COMPANY NAME: Total Env Concepts		INVOICE TO: APD Sci po		PROJECT NAME/Quote #:	
CONTACT:		INVOICE CONTACT:		SITE NAME: Halstead	
ADDRESS:		INVOICE ADDRESS:		PROJECT NUMBER: 4260155-071	
PHONE #: 804-389-7983		INVOICE PHONE #:		P.O. #: <input checked="" type="checkbox"/>	
FAX #:		EMAIL: Shanna.Hyman@enthalpy.com		Pretreatment Program:	
Is sample for compliance reporting? YES <input checked="" type="checkbox"/>		Regulatory State: VA		Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/>	
PWS I.D. #:		Turn Around Time: Circle 10		5 Days or 3 Day(s)	
SAMPLER NAME (PRINT): Shanna Hyman		SAMPLER SIGNATURE: <i>[Signature]</i>		COMMENTS	
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other					
CLIENT SAMPLE I.D.		ANALYSIS / (PRESERVATIVE)		Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Hydrochloric Acid A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol	
1) Trip blank		VCS tags		DEP State lead	
2)					
3)					
4)					
5)				271	
6)				0.1°C	
7)				onice	
8)				NOSUM	
9)					
10)					
REFUNISHED: <i>[Signature]</i>		RECEIVED: <i>[Signature]</i>		COOLER TEMP _____ °C	
DATE / TIME: 12/1/23 9:00		DATE / TIME: 12/1/23 09:00		Received on ice? (Y/N)	
REQUISITIONED: <i>[Signature]</i>		RECEIVED: <i>[Signature]</i>		LAB USE ONLY Therm ID: _____	
DATE / TIME: _____		DATE / TIME: _____		Custody Seals used and intact? (Y/N)	
REQUISITIONED: _____		RECEIVED: _____		Level III <input type="checkbox"/>	
DATE / TIME: _____		DATE / TIME: _____		Level IV <input type="checkbox"/>	
REQUISITIONED: _____		RECEIVED: _____		QC Data Package <input type="checkbox"/>	
DATE / TIME: _____		DATE / TIME: _____		Number of Containers <input checked="" type="checkbox"/>	
REQUISITIONED: _____		RECEIVED: _____		Matrix (See Codes)	
DATE / TIME: _____		DATE / TIME: _____		Time Preserved	
REQUISITIONED: _____		RECEIVED: _____		Grab Time or Composite Stop	
DATE / TIME: _____		DATE / TIME: _____		Composite Stop Date	
REQUISITIONED: _____		RECEIVED: _____		Grab Date or Composite Stop Date	
DATE / TIME: _____		DATE / TIME: _____		Composite Start Time	
REQUISITIONED: _____		RECEIVED: _____		Composite Start Date	
DATE / TIME: _____		DATE / TIME: _____		Field Filtered (Dissolved Metals)	
REQUISITIONED: _____		RECEIVED: _____		Composite	
DATE / TIME: _____		DATE / TIME: _____		Grab	
REQUISITIONED: _____		RECEIVED: _____		QC Data Package	
DATE / TIME: _____		DATE / TIME: _____		LAB USE ONLY Therm ID: _____	
REQUISITIONED: _____		RECEIVED: _____		Custody Seals used and intact? (Y/N)	
DATE / TIME: _____		DATE / TIME: _____		Level III <input type="checkbox"/>	
REQUISITIONED: _____		RECEIVED: _____		Level IV <input type="checkbox"/>	
DATE / TIME: _____		DATE / TIME: _____		COOLER TEMP _____ °C	
REQUISITIONED: _____		RECEIVED: _____		Received on ice? (Y/N)	
DATE / TIME: _____		DATE / TIME: _____		INTERFERENCE CHECKS or PUMP RATE (L/min)	
REQUISITIONED: _____		RECEIVED: _____		PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)	
DATE / TIME: _____		DATE / TIME: _____		RATE (L/min)	
REQUISITIONED: _____		RECEIVED: _____		271	
DATE / TIME: _____		DATE / TIME: _____		0.1°C	
REQUISITIONED: _____		RECEIVED: _____		onice	
DATE / TIME: _____		DATE / TIME: _____		NOSUM	
REQUISITIONED: _____		RECEIVED: _____		TEC-Springfield 23L0004	
DATE / TIME: _____		DATE / TIME: _____		Halstead	
REQUISITIONED: _____		RECEIVED: _____		Recd: 12/01/2023 Due: 12/06/2023	
DATE / TIME: _____		DATE / TIME: _____		130325002	
REQUISITIONED: _____		RECEIVED: _____		EA COC_V210310.xls	
DATE / TIME: _____		DATE / TIME: _____		Unless otherwise agreed in writing, any and all products and/or services provided by Enthality are pursuant to the terms and conditions as set forth at https://enthalpy.com/terms-and-conditions/	
REQUISITIONED: _____		RECEIVED: _____		Page 117 of 119	
DATE / TIME: _____		DATE / TIME: _____			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 06, 2023 15:35
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	0.10°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

Chain of custody indicates a collection date of "11/31/23", samples taken on 11/30/23 discussed at drop off with Shanna Hryvniak. KRC 12/1/23 0927

Shanna Hryvniak notified via email for the chain of custody being recieved without collection times indicated for sample IDs: "164 Pastel" and "163 Pastel". KRC 12/1/23 1153

Shanna Hryvniak confirmed sample collection times on containers are correct for sample IDs: "164 Pastel" and "163 Pastel". KRC 12/1/23 1156



Appendix F

Laboratory Analytical Report (12/4/2023)



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Certificate of Analysis

Final Report

Laboratory Order ID 23L0214

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Date Received: December 6, 2023 10:40

Date Issued: December 11, 2023 16:41

Project Number: [none]

Purchase Order: 4260155-001

Enclosed are the results of analyses for samples received by the laboratory on 12/06/2023 10:40. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L0214

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1458 Coopers Cove	23L0214-01	Waste Water	12/05/2023 11:40	12/06/2023 10:40
1515 Coopers Cove	23L0214-02	Waste Water	12/05/2023 10:45	12/06/2023 10:40
35 Pastel (Raw)	23L0214-03	Waste Water	12/04/2023 03:15	12/06/2023 10:40
1850 Coopers Cove	23L0214-04	Waste Water	12/04/2023 04:20	12/06/2023 10:40
1451 Coopers Cove	23L0214-05	Waste Water	12/04/2023 05:00	12/06/2023 10:40
Trip Blank	23L0214-06	Ground Water	08/15/2023 11:05	12/06/2023 10:40



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove	Laboratory Sample ID: 23L0214-01
Grab Date/Time: 12/05/2023 11:40	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:08	12/06/23 18:08	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:08	12/06/23 18:08	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove Laboratory Sample ID: 23L0214-01
 Grab Date/Time: 12/05/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:08	12/06/23 18:08	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:08	12/06/23 18:08	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/06/23 18:08	12/06/23 18:08	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:08	12/06/23 18:08	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/06/23 18:08	12/06/23 18:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove	Laboratory Sample ID: 23L0214-01
Grab Date/Time: 12/05/2023 11:40	Field pH:
Field Residual Cl:	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	89.4 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:08	12/06/23 18:08	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:08	12/06/23 18:08	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/06/23 18:08	12/06/23 18:08	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	101 %		70-120		12/06/23 18:08	12/06/23 18:08	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	107 %		75-120		12/06/23 18:08	12/06/23 18:08	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	102 %		70-130		12/06/23 18:08	12/06/23 18:08	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	101 %		70-130		12/06/23 18:08	12/06/23 18:08	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove Laboratory Sample ID: 23L0214-01
 Grab Date/Time: 12/05/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1,2-Dichlorobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1,2-Diphenylhydrazine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1,3-Dichlorobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1,3-Dinitrobenzene	01	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 16:56	BMS
1,4-Dichlorobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
1-Naphthylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4,5-Trichlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4,6-Trichlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4-Dichlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4-Dimethylphenol	01	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4-Dinitrophenol	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
2,4-Dinitrotoluene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,6-Dichlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,6-Dinitrotoluene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Chloronaphthalene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Chlorophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Methylnaphthalene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Naphthylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Nitroaniline	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
2-Nitrophenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
3-Methylcholanthrene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
3-Nitroaniline	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove

Laboratory Sample ID: 23L0214-01

Grab Date/Time: 12/05/2023 11:40

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Aminobiphenyl	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Chloroaniline	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Nitroaniline	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
4-Nitrophenol	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Acenaphthene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Acenaphthylene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Acetophenone	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
Aniline	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
Anthracene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzidine	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzo (a) anthracene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzo (a) pyrene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzo (b) fluoranthene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzo (g,h,i) perylene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzo (k) fluoranthene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzoic acid	01	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 16:56	BMS
Benzyl alcohol	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove

Laboratory Sample ID: 23L0214-01

Grab Date/Time: 12/05/2023 11:40

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Chrysene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Dibenz (a,h) anthracene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Dibenz (a,j) acridine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Dibenzofuran	01	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 16:56	BMS
Diethyl phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Dimethyl phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Di-n-butyl phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Di-n-octyl phthalate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Diphenylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Ethyl methanesulfonate	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
Fluoranthene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Fluorene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Hexachlorobenzene	01	SW8270E	<4.17 ug/L		4.17	1	12/07/23 09:35	12/08/23 16:56	BMS
Hexachlorobutadiene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Hexachlorocyclopentadiene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Hexachloroethane	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Isophorone	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
m+p-Cresols	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Methyl methanesulfonate	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Naphthalene	01	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 16:56	BMS
Nitrobenzene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
n-Nitrosodimethylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1458 Coopers Cove Laboratory Sample ID: 23L0214-01
 Grab Date/Time: 12/05/2023 11:40
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
n-Nitrosopiperidine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
o+m+p-Cresols	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
o-Cresol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 16:56	BMS
p-Chloro-m-cresol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Pentachlorophenol	01	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 16:56	BMS
Phenacetin	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Phenanthrene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Phenol	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Pronamide	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Pyrene	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Pyridine	01	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 16:56	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	66.6 %		5-136		12/07/23 09:35	12/08/23 16:56	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	48.3 %		9-117		12/07/23 09:35	12/08/23 16:56	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	46.1 %		5-60		12/07/23 09:35	12/08/23 16:56	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	54.4 %		5-151		12/07/23 09:35	12/08/23 16:56	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	34.0 %		5-60		12/07/23 09:35	12/08/23 16:56	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	73.0 %		5-141		12/07/23 09:35	12/08/23 16:56	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove Laboratory Sample ID: 23L0214-02
 Grab Date/Time: 12/05/2023 10:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:31	12/06/23 18:31	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:31	12/06/23 18:31	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove

Laboratory Sample ID: 23L0214-02

Grab Date/Time: 12/05/2023 10:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:31	12/06/23 18:31	RJB
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:31	12/06/23 18:31	RJB
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	12/06/23 18:31	12/06/23 18:31	RJB
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:31	12/06/23 18:31	RJB
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	12/06/23 18:31	12/06/23 18:31	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove Laboratory Sample ID: 23L0214-02
 Grab Date/Time: 12/05/2023 10:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/06/23 18:31	12/06/23 18:31	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/06/23 18:31	12/06/23 18:31	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/06/23 18:31	12/06/23 18:31	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	98.7 %		70-120		12/06/23 18:31	12/06/23 18:31	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	106 %		75-120		12/06/23 18:31	12/06/23 18:31	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	101 %		70-130		12/06/23 18:31	12/06/23 18:31	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	101 %		70-130		12/06/23 18:31	12/06/23 18:31	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove Laboratory Sample ID: 23L0214-02
 Grab Date/Time: 12/05/2023 10:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1,2-Dichlorobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1,2-Diphenylhydrazine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1,3-Dichlorobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1,3-Dinitrobenzene	02	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 17:25	BMS
1,4-Dichlorobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
1-Naphthylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4,5-Trichlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4,6-Trichlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4-Dichlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4-Dimethylphenol	02	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4-Dinitrophenol	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
2,4-Dinitrotoluene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,6-Dichlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,6-Dinitrotoluene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Chloronaphthalene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Chlorophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Methylnaphthalene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Naphthylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Nitroaniline	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
2-Nitrophenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
3-Methylcholanthrene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
3-Nitroaniline	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove

Laboratory Sample ID: 23L0214-02

Grab Date/Time: 12/05/2023 10:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Aminobiphenyl	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Chloroaniline	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Nitroaniline	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
4-Nitrophenol	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Acenaphthene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Acenaphthylene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Acetophenone	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
Aniline	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
Anthracene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzidine	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzo (a) anthracene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzo (a) pyrene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzo (b) fluoranthene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzo (g,h,i) perylene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzo (k) fluoranthene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzoic acid	02	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:25	BMS
Benzyl alcohol	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove

Laboratory Sample ID: 23L0214-02

Grab Date/Time: 12/05/2023 10:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Chrysene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Dibenz (a,h) anthracene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Dibenz (a,j) acridine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Dibenzofuran	02	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:25	BMS
Diethyl phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Dimethyl phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Di-n-butyl phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Di-n-octyl phthalate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Diphenylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Ethyl methanesulfonate	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
Fluoranthene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Fluorene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Hexachlorobenzene	02	SW8270E	<4.17 ug/L		4.17	1	12/07/23 09:35	12/08/23 17:25	BMS
Hexachlorobutadiene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Hexachlorocyclopentadiene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Hexachloroethane	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Isophorone	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
m+p-Cresols	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Methyl methanesulfonate	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Naphthalene	02	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:25	BMS
Nitrobenzene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
n-Nitrosodimethylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1515 Coopers Cove Laboratory Sample ID: 23L0214-02
 Grab Date/Time: 12/05/2023 10:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
n-Nitrosopiperidine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
o+m+p-Cresols	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
o-Cresol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 17:25	BMS
p-Chloro-m-cresol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Pentachlorophenol	02	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:25	BMS
Phenacetin	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Phenanthrene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Phenol	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Pronamide	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Pyrene	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Pyridine	02	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:25	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	54.6 %		5-136		12/07/23 09:35	12/08/23 17:25	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	40.6 %		9-117		12/07/23 09:35	12/08/23 17:25	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	22.5 %		5-60		12/07/23 09:35	12/08/23 17:25	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	47.6 %		5-151		12/07/23 09:35	12/08/23 17:25	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	27.4 %		5-60		12/07/23 09:35	12/08/23 17:25	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	52.1 %		5-141		12/07/23 09:35	12/08/23 17:25	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)

Laboratory Sample ID: 23L0214-03

Grab Date/Time: 12/04/2023 03:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:18	12/06/23 19:18	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:18	12/06/23 19:18	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)

Laboratory Sample ID: 23L0214-03

Grab Date/Time: 12/04/2023 03:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Acetone	03	SW8260D	29.1 ug/L		10.0	1	12/06/23 19:18	12/06/23 19:18	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:18	12/06/23 19:18	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	12/06/23 19:18	12/06/23 19:18	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:18	12/06/23 19:18	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	12/06/23 19:18	12/06/23 19:18	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)	Laboratory Sample ID: 23L0214-03
Grab Date/Time: 12/04/2023 03:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	8.79 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:18	12/06/23 19:18	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:18	12/06/23 19:18	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	12/06/23 19:18	12/06/23 19:18	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	98.7 %		70-120		12/06/23 19:18	12/06/23 19:18	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	107 %		75-120		12/06/23 19:18	12/06/23 19:18	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	100 %		70-130		12/06/23 19:18	12/06/23 19:18	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	101 %		70-130		12/06/23 19:18	12/06/23 19:18	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw) Laboratory Sample ID: 23L0214-03
 Grab Date/Time: 12/04/2023 03:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1,2-Dichlorobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1,2-Diphenylhydrazine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1,3-Dichlorobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1,3-Dinitrobenzene	03	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 17:54	BMS
1,4-Dichlorobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
1-Naphthylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4,5-Trichlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4,6-Trichlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4-Dichlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4-Dimethylphenol	03	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4-Dinitrophenol	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
2,4-Dinitrotoluene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,6-Dichlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,6-Dinitrotoluene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Chloronaphthalene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Chlorophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Methylnaphthalene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Naphthylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Nitroaniline	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
2-Nitrophenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
3-Methylcholanthrene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
3-Nitroaniline	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)

Laboratory Sample ID: 23L0214-03

Grab Date/Time: 12/04/2023 03:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Aminobiphenyl	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Chloroaniline	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Nitroaniline	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
4-Nitrophenol	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Acenaphthene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Acenaphthylene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Acetophenone	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
Aniline	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
Anthracene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzidine	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzo (a) anthracene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzo (a) pyrene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzo (b) fluoranthene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzo (g,h,i) perylene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzo (k) fluoranthene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzoic acid	03	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 17:54	BMS
Benzyl alcohol	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)

Laboratory Sample ID: 23L0214-03

Grab Date/Time: 12/04/2023 03:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Chrysene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Dibenz (a,h) anthracene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Dibenz (a,j) acridine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Dibenzofuran	03	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:54	BMS
Diethyl phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Dimethyl phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Di-n-butyl phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Di-n-octyl phthalate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Diphenylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Ethyl methanesulfonate	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
Fluoranthene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Fluorene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Hexachlorobenzene	03	SW8270E	<4.17 ug/L		4.17	1	12/07/23 09:35	12/08/23 17:54	BMS
Hexachlorobutadiene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Hexachlorocyclopentadiene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Hexachloroethane	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Isophorone	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
m+p-Cresols	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Methyl methanesulfonate	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Naphthalene	03	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 17:54	BMS
Nitrobenzene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
n-Nitrosodimethylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 35 Pastel (Raw)	Laboratory Sample ID: 23L0214-03
Grab Date/Time: 12/04/2023 03:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
n-Nitrosopiperidine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
o+m+p-Cresols	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
o-Cresol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 17:54	BMS
p-Chloro-m-cresol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Pentachlorophenol	03	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 17:54	BMS
Phenacetin	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Phenanthrene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Phenol	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Pronamide	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Pyrene	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Pyridine	03	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 17:54	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	53.6 %		5-136		12/07/23 09:35	12/08/23 17:54	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	41.8 %		9-117		12/07/23 09:35	12/08/23 17:54	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	24.1 %		5-60		12/07/23 09:35	12/08/23 17:54	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	45.8 %		5-151		12/07/23 09:35	12/08/23 17:54	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	30.4 %		5-60		12/07/23 09:35	12/08/23 17:54	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	52.2 %		5-141		12/07/23 09:35	12/08/23 17:54	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove Laboratory Sample ID: 23L0214-04
 Grab Date/Time: 12/04/2023 04:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:41	12/06/23 19:41	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:41	12/06/23 19:41	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove

Laboratory Sample ID: 23L0214-04

Grab Date/Time: 12/04/2023 04:20

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Acetone	04	SW8260D	11.0 ug/L		10.0	1	12/06/23 19:41	12/06/23 19:41	RJB
Benzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Bromobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Bromochloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Bromodichloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
Bromoform	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Bromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Carbon disulfide	04	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:41	12/06/23 19:41	RJB
Carbon tetrachloride	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Chlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Chloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Chloroform	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
Chloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Dibromochloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
Dibromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L		5.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Ethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L		0.80	1	12/06/23 19:41	12/06/23 19:41	RJB
Iodomethane	04	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:41	12/06/23 19:41	RJB
Isopropylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
m+p-Xylenes	04	SW8260D	<2.00 ug/L		2.00	1	12/06/23 19:41	12/06/23 19:41	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove

Laboratory Sample ID: 23L0214-04

Grab Date/Time: 12/04/2023 04:20

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	04	SW8260D	<4.00 ug/L		4.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Naphthalene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
o-Xylene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Styrene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Toluene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L		10.0	1	12/06/23 19:41	12/06/23 19:41	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L		0.50	1	12/06/23 19:41	12/06/23 19:41	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L		3.00	1	12/06/23 19:41	12/06/23 19:41	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	99.5 %		70-120		12/06/23 19:41	12/06/23 19:41	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	107 %		75-120		12/06/23 19:41	12/06/23 19:41	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	100 %		70-130		12/06/23 19:41	12/06/23 19:41	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	101 %		70-130		12/06/23 19:41	12/06/23 19:41	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove Laboratory Sample ID: 23L0214-04
 Grab Date/Time: 12/04/2023 04:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1,2-Dichlorobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1,2-Diphenylhydrazine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1,3-Dichlorobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1,3-Dinitrobenzene	04	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 18:24	BMS
1,4-Dichlorobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
1-Naphthylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4,5-Trichlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4,6-Trichlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4-Dichlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4-Dimethylphenol	04	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4-Dinitrophenol	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
2,4-Dinitrotoluene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,6-Dichlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,6-Dinitrotoluene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Chloronaphthalene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Chlorophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Methylnaphthalene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Naphthylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Nitroaniline	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
2-Nitrophenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
3-Methylcholanthrene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
3-Nitroaniline	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove

Laboratory Sample ID: 23L0214-04

Grab Date/Time: 12/04/2023 04:20

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Aminobiphenyl	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Chloroaniline	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Nitroaniline	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
4-Nitrophenol	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Acenaphthene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Acenaphthylene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Acetophenone	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
Aniline	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
Anthracene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzidine	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzo (a) anthracene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzo (a) pyrene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzo (b) fluoranthene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzo (g,h,i) perylene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzo (k) fluoranthene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzoic acid	04	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:24	BMS
Benzyl alcohol	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove

Laboratory Sample ID: 23L0214-04

Grab Date/Time: 12/04/2023 04:20

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Chrysene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Dibenz (a,h) anthracene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Dibenz (a,j) acridine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Dibenzofuran	04	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:24	BMS
Diethyl phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Dimethyl phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Di-n-butyl phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Di-n-octyl phthalate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Diphenylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Ethyl methanesulfonate	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
Fluoranthene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Fluorene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Hexachlorobenzene	04	SW8270E	<4.17 ug/L		4.17	1	12/07/23 09:35	12/08/23 18:24	BMS
Hexachlorobutadiene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Hexachlorocyclopentadiene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Hexachloroethane	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Isophorone	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
m+p-Cresols	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Methyl methanesulfonate	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Naphthalene	04	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:24	BMS
Nitrobenzene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
n-Nitrosodimethylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1850 Coopers Cove Laboratory Sample ID: 23L0214-04
 Grab Date/Time: 12/04/2023 04:20
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
n-Nitrosopiperidine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
o+m+p-Cresols	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
o-Cresol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 18:24	BMS
p-Chloro-m-cresol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Pentachlorophenol	04	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:24	BMS
Phenacetin	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Phenanthrene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Phenol	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Pronamide	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Pyrene	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Pyridine	04	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:24	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	62.6 %		5-136		12/07/23 09:35	12/08/23 18:24	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	45.7 %		9-117		12/07/23 09:35	12/08/23 18:24	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	43.2 %		5-60		12/07/23 09:35	12/08/23 18:24	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	50.6 %		5-151		12/07/23 09:35	12/08/23 18:24	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	30.4 %		5-60		12/07/23 09:35	12/08/23 18:24	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	54.2 %		5-141		12/07/23 09:35	12/08/23 18:24	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove	Laboratory Sample ID: 23L0214-05
Grab Date/Time: 12/04/2023 05:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	12/06/23 20:04	12/06/23 20:04	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/06/23 20:04	12/06/23 20:04	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove

Laboratory Sample ID: 23L0214-05

Grab Date/Time: 12/04/2023 05:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Acetone	05	SW8260D	17.0 ug/L		10.0	1	12/06/23 20:04	12/06/23 20:04	RJB
Benzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Bromobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Bromochloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Bromodichloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
Bromoform	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Bromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Carbon disulfide	05	SW8260D	<10.0 ug/L		10.0	1	12/06/23 20:04	12/06/23 20:04	RJB
Carbon tetrachloride	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Chlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Chloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Chloroform	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
Chloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Dibromochloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
Dibromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L		5.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Ethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L		0.80	1	12/06/23 20:04	12/06/23 20:04	RJB
Iodomethane	05	SW8260D	<10.0 ug/L		10.0	1	12/06/23 20:04	12/06/23 20:04	RJB
Isopropylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
m+p-Xylenes	05	SW8260D	<2.00 ug/L		2.00	1	12/06/23 20:04	12/06/23 20:04	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 11, 2023 16:41
		Project Number:	[none]
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove	Laboratory Sample ID: 23L0214-05
Grab Date/Time: 12/04/2023 05:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	12/06/23 20:04	12/06/23 20:04	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	12/06/23 20:04	12/06/23 20:04	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	12/06/23 20:04	12/06/23 20:04	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	99.2 %		70-120		12/06/23 20:04	12/06/23 20:04	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	108 %		75-120		12/06/23 20:04	12/06/23 20:04	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	100 %		70-130		12/06/23 20:04	12/06/23 20:04	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	101 %		70-130		12/06/23 20:04	12/06/23 20:04	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove Laboratory Sample ID: 23L0214-05
 Grab Date/Time: 12/04/2023 05:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1,2,4-Trichlorobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1,2-Dichlorobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1,2-Diphenylhydrazine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1,3-Dichlorobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1,3-Dinitrobenzene	05	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 18:53	BMS
1,4-Dichlorobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
1-Naphthylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,3,4,6-Tetrachlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4,5-Trichlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4,6-Trichlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4-Dichlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4-Dimethylphenol	05	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4-Dinitrophenol	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
2,4-Dinitrotoluene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,6-Dichlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,6-Dinitrotoluene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Chloronaphthalene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Chlorophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Methylnaphthalene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Naphthylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Nitroaniline	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
2-Nitrophenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
3,3'-Dichlorobenzidine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
3-Methylcholanthrene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
3-Nitroaniline	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove

Laboratory Sample ID: 23L0214-05

Grab Date/Time: 12/04/2023 05:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Aminobiphenyl	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Bromophenyl phenyl ether	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Chloroaniline	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Chlorophenyl phenyl ether	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Nitroaniline	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
4-Nitrophenol	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
7,12-Dimethylbenz (a) anthracene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Acenaphthene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Acenaphthylene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Acetophenone	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
Aniline	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
Anthracene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzidine	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzo (a) anthracene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzo (a) pyrene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzo (b) fluoranthene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzo (g,h,i) perylene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzo (k) fluoranthene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzoic acid	05	SW8270E	<208 ug/L		208	1	12/07/23 09:35	12/08/23 18:53	BMS
Benzyl alcohol	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
bis (2-Chloroethoxy) methane	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
bis (2-Chloroethyl) ether	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
2,2'-Oxybis (1-chloropropane)	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
bis (2-Ethylhexyl) phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove

Laboratory Sample ID: 23L0214-05

Grab Date/Time: 12/04/2023 05:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Chrysene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Dibenz (a,h) anthracene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Dibenz (a,j) acridine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Dibenzofuran	05	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:53	BMS
Diethyl phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Dimethyl phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Di-n-butyl phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Di-n-octyl phthalate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Diphenylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Ethyl methanesulfonate	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
Fluoranthene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Fluorene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Hexachlorobenzene	05	SW8270E	<4.17 ug/L		4.17	1	12/07/23 09:35	12/08/23 18:53	BMS
Hexachlorobutadiene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Hexachlorocyclopentadiene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Hexachloroethane	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Indeno (1,2,3-cd) pyrene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Isophorone	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
m+p-Cresols	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Methyl methanesulfonate	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Naphthalene	05	SW8270E	<20.8 ug/L		20.8	1	12/07/23 09:35	12/08/23 18:53	BMS
Nitrobenzene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
n-Nitrosodimethylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
n-Nitrosodi-n-butylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
n-Nitrosodi-n-propylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. 1451 Coopers Cove Laboratory Sample ID: 23L0214-05
 Grab Date/Time: 12/04/2023 05:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
n-Nitrosopiperidine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
o+m+p-Cresols	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
o-Cresol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
p-(Dimethylamino) azobenzene	05	SW8270E	<10.4 ug/L		10.4	1	12/07/23 09:35	12/08/23 18:53	BMS
p-Chloro-m-cresol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Pentachloronitrobenzene (quintozene)	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Pentachlorophenol	05	SW8270E	<83.3 ug/L		83.3	1	12/07/23 09:35	12/08/23 18:53	BMS
Phenacetin	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Phenanthrene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Phenol	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Pronamide	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Pyrene	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Pyridine	05	SW8270E	<41.7 ug/L		41.7	1	12/07/23 09:35	12/08/23 18:53	BMS
Surr: 2,4,6-Tribromophenol (Surr)	05	SW8270E	57.0 %		5-136		12/07/23 09:35	12/08/23 18:53	BMS
Surr: 2-Fluorobiphenyl (Surr)	05	SW8270E	52.8 %		9-117		12/07/23 09:35	12/08/23 18:53	BMS
Surr: 2-Fluorophenol (Surr)	05	SW8270E	41.1 %		5-60		12/07/23 09:35	12/08/23 18:53	BMS
Surr: Nitrobenzene-d5 (Surr)	05	SW8270E	46.2 %		5-151		12/07/23 09:35	12/08/23 18:53	BMS
Surr: Phenol-d5 (Surr)	05	SW8270E	29.7 %		5-60		12/07/23 09:35	12/08/23 18:53	BMS
Surr: p-Terphenyl-d14 (Surr)	05	SW8270E	52.2 %		5-141		12/07/23 09:35	12/08/23 18:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0214-06
 Grab Date/Time: 08/15/2023 11:05
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1,1-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1,2,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1,2-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,1-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2,3-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2,3-Trichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2,4-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2,4-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2-Dibromo-3-chloropropane (DBCP)	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2-Dibromoethane (EDB)	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2-Dichlorobenzene	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,2-Dichloropropane	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
1,3,5-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,3-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,3-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
1,4-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
2,2-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
2-Butanone (MEK)	06	SW8260D	<10.0 ug/L		10.0	1	12/06/23 17:45	12/06/23 17:45	RJB
2-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
2-Hexanone (MBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/06/23 17:45	12/06/23 17:45	RJB
4-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0214-06
 Grab Date/Time: 08/15/2023 11:05
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
4-Methyl-2-pentanone (MIBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Acetone	06	SW8260D	<10.0 ug/L		10.0	1	12/06/23 17:45	12/06/23 17:45	RJB
Benzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Bromobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Bromochloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Bromodichloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
Bromoform	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Bromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Carbon disulfide	06	SW8260D	<10.0 ug/L		10.0	1	12/06/23 17:45	12/06/23 17:45	RJB
Carbon tetrachloride	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Chlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Chloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Chloroform	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
Chloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
cis-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
cis-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Dibromochloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
Dibromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Dichlorodifluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Di-isopropyl ether (DIPE)	06	SW8260D	<5.00 ug/L		5.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Ethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Hexachlorobutadiene	06	SW8260D	<0.80 ug/L		0.80	1	12/06/23 17:45	12/06/23 17:45	RJB
Iodomethane	06	SW8260D	<10.0 ug/L		10.0	1	12/06/23 17:45	12/06/23 17:45	RJB
Isopropylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
m+p-Xylenes	06	SW8260D	<2.00 ug/L		2.00	1	12/06/23 17:45	12/06/23 17:45	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0214

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0214-06
 Grab Date/Time: 08/15/2023 11:05
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	06	SW8260D	<4.00 ug/L		4.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Methyl-t-butyl ether (MTBE)	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Naphthalene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
n-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
n-Propylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
o-Xylene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
sec-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Styrene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
tert-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Tetrachloroethylene (PCE)	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Toluene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
trans-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
trans-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Trichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Trichlorofluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Vinyl acetate	06	SW8260D	<10.0 ug/L		10.0	1	12/06/23 17:45	12/06/23 17:45	RJB
Vinyl chloride	06	SW8260D	<0.50 ug/L		0.50	1	12/06/23 17:45	12/06/23 17:45	RJB
Xylenes, Total	06	SW8260D	<3.00 ug/L		3.00	1	12/06/23 17:45	12/06/23 17:45	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	06	SW8260D	99.7 %		70-120		12/06/23 17:45	12/06/23 17:45	RJB
Surr: 4-Bromofluorobenzene (Surr)	06	SW8260D	107 %		75-120		12/06/23 17:45	12/06/23 17:45	RJB
Surr: Dibromofluoromethane (Surr)	06	SW8260D	102 %		70-130		12/06/23 17:45	12/06/23 17:45	RJB
Surr: Toluene-d8 (Surr)	06	SW8260D	101 %		70-130		12/06/23 17:45	12/06/23 17:45	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23L0214-01	120 mL / 0.500 mL	SW8270E	BGL0240	SGL0360	AK30271
23L0214-02	120 mL / 0.500 mL	SW8270E	BGL0240	SGL0360	AK30271
23L0214-03	120 mL / 0.500 mL	SW8270E	BGL0240	SGL0360	AK30271
23L0214-04	120 mL / 0.500 mL	SW8270E	BGL0240	SGL0360	AK30271
23L0214-05	120 mL / 0.500 mL	SW8270E	BGL0240	SGL0360	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23L0214-01	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
23L0214-02	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
23L0214-03	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
23L0214-04	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
23L0214-05	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
23L0214-06	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL0240-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0240	SGL0360	AK30271
BGL0240-BLK2		SW8270E	BGL0240	SGL0279	AG30337
BGL0240-BS1	1000 mL / 1.00 mL	SW8270E	BGL0240	SGL0360	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL0205-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
BGL0205-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
BGL0205-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176
BGL0205-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0205	SGL0211	AL30176



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Blank (BGL0205-BLK1)

Prepared & Analyzed: 12/06/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Blank (BGL0205-BLK1)

Prepared & Analyzed: 12/06/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 11, 2023 16:41
		Project Number:	[none]
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Blank (BGL0205-BLK1)

Prepared & Analyzed: 12/06/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	50.5		ug/L	50.0		101	70-120			
Surr: 4-Bromofluorobenzene (Surr)	53.7		ug/L	50.0		107	75-120			
Surr: Dibromofluoromethane (Surr)	51.5		ug/L	50.0		103	70-130			
Surr: Toluene-d8 (Surr)	50.3		ug/L	50.0		101	70-130			

LCS (BGL0205-BS1)

Prepared & Analyzed: 12/06/2023

1,1,1,2-Tetrachloroethane	53.0 ug/L	0.4	ug/L	50.0	ug/L	106	80-130			
1,1,1-Trichloroethane	50.7 ug/L	1	ug/L	50.0	ug/L	101	65-130			
1,1,2,2-Tetrachloroethane	53.3 ug/L	0.4	ug/L	50.0	ug/L	107	65-130			
1,1,2-Trichloroethane	53.0 ug/L	1	ug/L	50.0	ug/L	106	75-125			
1,1-Dichloroethane	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-135			
1,1-Dichloroethylene	53.7 ug/L	1	ug/L	50.0	ug/L	107	70-130			
1,1-Dichloropropene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-135			
1,2,3-Trichlorobenzene	54.5 ug/L	1	ug/L	50.0	ug/L	109	55-140			
1,2,3-Trichloropropane	50.2 ug/L	1	ug/L	50.0	ug/L	100	75-125			
1,2,4-Trichlorobenzene	51.2 ug/L	1	ug/L	50.0	ug/L	102	65-135			
1,2,4-Trimethylbenzene	55.1 ug/L	1	ug/L	50.0	ug/L	110	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	44.0 ug/L	1	ug/L	50.0	ug/L	88.1	50-130			
1,2-Dibromoethane (EDB)	52.8 ug/L	1	ug/L	50.0	ug/L	106	80-120			
1,2-Dichlorobenzene	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	70-120			
1,2-Dichloroethane	51.1 ug/L	1	ug/L	50.0	ug/L	102	70-130			
1,2-Dichloropropane	52.6 ug/L	0.5	ug/L	50.0	ug/L	105	75-125			
1,3,5-Trimethylbenzene	53.8 ug/L	1	ug/L	50.0	ug/L	108	75-125			
1,3-Dichlorobenzene	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
1,3-Dichloropropane	51.5 ug/L	1	ug/L	50.0	ug/L	103	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

LCS (BGL0205-BS1)

Prepared & Analyzed: 12/06/2023

1,4-Dichlorobenzene	51.5 ug/L	1	ug/L	50.0	ug/L	103	75-125			
2,2-Dichloropropane	51.0 ug/L	1	ug/L	50.0	ug/L	102	70-135			
2-Butanone (MEK)	42.8 ug/L	10	ug/L	50.0	ug/L	85.6	30-150			
2-Chlorotoluene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-125			
2-Hexanone (MBK)	48.7 ug/L	5	ug/L	50.0	ug/L	97.3	55-130			
4-Chlorotoluene	53.7 ug/L	1	ug/L	50.0	ug/L	107	75-130			
4-Isopropyltoluene	54.4 ug/L	1	ug/L	50.0	ug/L	109	75-130			
4-Methyl-2-pentanone (MIBK)	52.5 ug/L	5	ug/L	50.0	ug/L	105	60-135			
Acetone	39.5 ug/L	10	ug/L	50.0	ug/L	79.1	40-140			
Benzene	53.5 ug/L	1	ug/L	50.0	ug/L	107	80-120			
Bromobenzene	55.1 ug/L	1	ug/L	50.0	ug/L	110	75-125			
Bromochloromethane	51.3 ug/L	1	ug/L	50.0	ug/L	103	65-130			
Bromodichloromethane	52.6 ug/L	0.5	ug/L	50.0	ug/L	105	75-120			
Bromoform	58.9 ug/L	1	ug/L	50.0	ug/L	118	70-130			
Bromomethane	46.0 ug/L	1	ug/L	50.0	ug/L	92.0	30-145			
Carbon disulfide	57.6 ug/L	10	ug/L	50.0	ug/L	115	35-160			
Carbon tetrachloride	50.3 ug/L	1	ug/L	50.0	ug/L	101	65-140			
Chlorobenzene	52.6 ug/L	1	ug/L	50.0	ug/L	105	80-120			
Chloroethane	52.0 ug/L	1	ug/L	50.0	ug/L	104	60-135			
Chloroform	50.1 ug/L	0.5	ug/L	50.0	ug/L	100	65-135			
Chloromethane	61.0 ug/L	1	ug/L	50.0	ug/L	122	40-125			
cis-1,2-Dichloroethylene	53.7 ug/L	1	ug/L	50.0	ug/L	107	70-125			
cis-1,3-Dichloropropene	53.3 ug/L	1	ug/L	50.0	ug/L	107	70-130			
Dibromochloromethane	54.3 ug/L	0.5	ug/L	50.0	ug/L	109	60-135			
Dibromomethane	50.7 ug/L	1	ug/L	50.0	ug/L	101	75-125			
Dichlorodifluoromethane	74.2 ug/L	1	ug/L	50.0	ug/L	148	30-155			
Ethylbenzene	54.4 ug/L	1	ug/L	50.0	ug/L	109	75-125			
Hexachlorobutadiene	45.5 ug/L	0.8	ug/L	50.0	ug/L	90.9	50-140			
Isopropylbenzene	51.0 ug/L	1	ug/L	50.0	ug/L	102	75-125			
m+p-Xylenes	107 ug/L	2	ug/L	100	ug/L	107	75-130			
Methylene chloride	54.9 ug/L	4	ug/L	50.0	ug/L	110	55-140			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

LCS (BGL0205-BS1)

Prepared & Analyzed: 12/06/2023

Methyl-t-butyl ether (MTBE)	52.1 ug/L	1	ug/L	50.0	ug/L	104	65-125			
Naphthalene	51.4 ug/L	1	ug/L	50.0	ug/L	103	55-140			
n-Butylbenzene	52.8 ug/L	1	ug/L	50.0	ug/L	106	70-135			
n-Propylbenzene	53.7 ug/L	1	ug/L	50.0	ug/L	107	70-130			
o-Xylene	54.0 ug/L	1	ug/L	50.0	ug/L	108	80-120			
sec-Butylbenzene	56.0 ug/L	1	ug/L	50.0	ug/L	112	70-125			
Styrene	55.6 ug/L	1	ug/L	50.0	ug/L	111	65-135			
tert-Butylbenzene	53.2 ug/L	1	ug/L	50.0	ug/L	106	70-130			
Tetrachloroethylene (PCE)	43.4 ug/L	1	ug/L	50.0	ug/L	86.7	45-150			
Toluene	53.2 ug/L	1	ug/L	50.0	ug/L	106	75-120			
trans-1,2-Dichloroethylene	53.4 ug/L	1	ug/L	50.0	ug/L	107	60-140			
trans-1,3-Dichloropropene	57.6 ug/L	1	ug/L	50.0	ug/L	115	55-140			
Trichloroethylene	51.6 ug/L	1	ug/L	50.0	ug/L	103	70-125			
Trichlorofluoromethane	55.4 ug/L	1	ug/L	50.0	ug/L	111	60-145			
Vinyl chloride	55.9 ug/L	0.5	ug/L	50.0	ug/L	112	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	49.4		ug/L	50.0	ug/L	98.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.2		ug/L	50.0	ug/L	104	75-120			
Surr: Dibromofluoromethane (Surr)	50.3		ug/L	50.0	ug/L	101	70-130			
Surr: Toluene-d8 (Surr)	50.2		ug/L	50.0	ug/L	100	70-130			

Duplicate (BGL0205-DUP1)

Source: 23L0214-02

Prepared & Analyzed: 12/06/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Duplicate (BGL0205-DUP1)

Source: 23L0214-02

Prepared & Analyzed: 12/06/2023

1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Acetone	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Benzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromochloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromodichloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Bromoform	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Carbon disulfide	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroform	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Chloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Duplicate (BGL0205-DUP1)

Source: 23L0214-02

Prepared & Analyzed: 12/06/2023

Dibromochloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Dibromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Ethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L	<0.80 ug/L				NA	30	
Iodomethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Isopropylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
m+p-Xylenes	<2.00 ug/L	2.00	ug/L	<2.00 ug/L				NA	30	
Methylene chloride	<4.00 ug/L	4.00	ug/L	<4.00 ug/L				NA	30	
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Naphthalene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Propylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
o-Xylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Styrene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Toluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Vinyl acetate	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Vinyl chloride	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Xylenes, Total	<3.00 ug/L	3.00	ug/L	<3.00 ug/L				NA	30	
Tetrahydrofuran	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	49.7		ug/L	50.0 ug/L		99.4	70-120			
Surr: 4-Bromofluorobenzene (Surr)	53.4		ug/L	50.0 ug/L		107	75-120			
Surr: Dibromofluoromethane (Surr)	50.4		ug/L	50.0 ug/L		101	70-130			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Duplicate (BGL0205-DUP1) Source: 23L0214-02 Prepared & Analyzed: 12/06/2023

Surr: Toluene-d8 (Surr) 50.1 ug/L 50.0 ug/L 100 70-130

Matrix Spike (BGL0205-MS1) Source: 23L0214-01 Prepared & Analyzed: 12/06/2023

1,1,1,2-Tetrachloroethane	51.0 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	80-130			
1,1,1-Trichloroethane	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.5	65-130			
1,1,2,2-Tetrachloroethane	53.3 ug/L	0.4	ug/L	50.0	<0.4 ug/L	107	65-130			
1,1,2-Trichloroethane	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
1,1-Dichloroethane	50.0 ug/L	1	ug/L	50.0	<1 ug/L	99.9	70-135			
1,1-Dichloroethylene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	50-145			
1,1-Dichloropropene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	75-135			
1,2,3-Trichlorobenzene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	55-140			
1,2,3-Trichloropropane	50.4 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
1,2,4-Trichlorobenzene	44.8 ug/L	1	ug/L	50.0	<1 ug/L	89.6	65-135			
1,2,4-Trimethylbenzene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	105	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	45.2 ug/L	1	ug/L	50.0	<1 ug/L	90.3	50-130			
1,2-Dibromoethane (EDB)	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	80-120			
1,2-Dichlorobenzene	49.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	98.1	70-120			
1,2-Dichloroethane	49.0 ug/L	1	ug/L	50.0	<1 ug/L	97.9	70-130			
1,2-Dichloropropane	50.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	102	75-125			
1,3,5-Trimethylbenzene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124			
1,3-Dichlorobenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	75-125			
1,3-Dichloropropane	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
1,4-Dichlorobenzene	47.6 ug/L	1	ug/L	50.0	<1 ug/L	95.2	75-125			
2,2-Dichloropropane	47.6 ug/L	1	ug/L	50.0	<1 ug/L	95.2	70-135			
2-Butanone (MEK)	52.7 ug/L	10	ug/L	50.0	<10 ug/L	105	30-150			
2-Chlorotoluene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
2-Hexanone (MBK)	54.0 ug/L	5	ug/L	50.0	<5 ug/L	108	55-130			
4-Chlorotoluene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	75-130			
4-Isopropyltoluene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	75-130			
4-Methyl-2-pentanone (MIBK)	58.3 ug/L	5	ug/L	50.0	<5 ug/L	117	60-135			
Acetone	44.8 ug/L	10	ug/L	50.0	<10 ug/L	89.6	40-140			
Benzene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Matrix Spike (BGL0205-MS1)

Source: 23L0214-01

Prepared & Analyzed: 12/06/2023

Bromobenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
Bromochloromethane	48.9 ug/L	1	ug/L	50.0	<1 ug/L	97.9	65-130			
Bromodichloromethane	50.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	75-136			
Bromoform	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130			
Bromomethane	40.2 ug/L	1	ug/L	50.0	<1 ug/L	80.4	30-145			
Carbon disulfide	50.6 ug/L	10	ug/L	50.0	<10 ug/L	101	35-160			
Carbon tetrachloride	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.3	65-140			
Chlorobenzene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120			
Chloroethane	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	60-135			
Chloroform	48.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	96.3	65-135			
Chloromethane	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	40-125			
cis-1,2-Dichloroethylene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-125			
cis-1,3-Dichloropropene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	47-136			
Dibromochloromethane	52.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	60-135			
Dibromomethane	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.6	75-125			
Dichlorodifluoromethane	69.4 ug/L	1	ug/L	50.0	<1 ug/L	139	30-155			
Ethylbenzene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
Hexachlorobutadiene	42.7 ug/L	0.8	ug/L	50.0	<0.8 ug/L	85.5	50-140			
Isopropylbenzene	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	75-125			
m+p-Xylenes	103 ug/L	2	ug/L	100	<2 ug/L	102	75-130			
Methylene chloride	51.0 ug/L	4	ug/L	50.0	<4 ug/L	102	55-140			
Methyl-t-butyl ether (MTBE)	137 ug/L	1	ug/L	50.0	89.4 ug/L	94.3	65-125			
Naphthalene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	55-140			
n-Butylbenzene	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.8	70-135			
n-Propylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
o-Xylene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	103	80-120			
sec-Butylbenzene	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	70-125			
Styrene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	65-135			
tert-Butylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
Tetrachloroethylene (PCE)	41.5 ug/L	1	ug/L	50.0	<1 ug/L	83.0	51-231			
Toluene	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	75-120			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0205 - SW5030B-MS

Matrix Spike (BGL0205-MS1)

Source: 23L0214-01

Prepared & Analyzed: 12/06/2023

trans-1,2-Dichloroethylene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	60-140			
trans-1,3-Dichloropropene	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	55-140			
Trichloroethylene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.7	70-125			
Trichlorofluoromethane	55.4 ug/L	1	ug/L	50.0	<1 ug/L	111	60-145			
Vinyl chloride	50.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	49.7		ug/L	50.0	ug/L	99.4	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.8		ug/L	50.0	ug/L	104	75-120			
Surr: Dibromofluoromethane (Surr)	49.5		ug/L	50.0	ug/L	99.0	70-130			
Surr: Toluene-d8 (Surr)	50.3		ug/L	50.0	ug/L	101	70-130			



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Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

Blank (BGL0240-BLK1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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8382 Terminal Rd, Bay B

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Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

Blank (BGL0240-BLK1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 11, 2023 16:41
 Project Number: [none]
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

Blank (BGL0240-BLK1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	94.4		ug/L	100		94.4	5-136			
Surr: 2-Fluorobiphenyl (Surr)	37.6		ug/L	50.0		75.2	9-117			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

Blank (BGL0240-BLK1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

<i>Surr: 2-Fluorophenol (Surr)</i>	55.1		ug/L	100		55.1	5-60			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	38.0		ug/L	50.0		76.1	5-151			
<i>Surr: Phenol-d5 (Surr)</i>	35.0		ug/L	100		35.0	5-60			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	48.2		ug/L	50.0		96.4	5-141			

LCS (BGL0240-BS1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

1,2,4-Trichlorobenzene	23.9 ug/L	10.0	ug/L	50.0	ug/L	47.8	57-130			L
1,2-Dichlorobenzene	24.7 ug/L	10.0	ug/L	50.0	ug/L	49.4	22-115			
1,3-Dichlorobenzene	23.3 ug/L	10.0	ug/L	50.0	ug/L	46.7	22-112			
1,4-Dichlorobenzene	24.7 ug/L	10.0	ug/L	50.0	ug/L	49.5	13-112			
2,4,6-Trichlorophenol	35.5 ug/L	10.0	ug/L	50.0	ug/L	71.0	52-129			
2,4-Dichlorophenol	31.9 ug/L	10.0	ug/L	50.0	ug/L	63.8	53-122			
2,4-Dimethylphenol	29.1 ug/L	5.00	ug/L	50.0	ug/L	58.2	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	65.5	48-127			
2,4-Dinitrotoluene	37.4 ug/L	10.0	ug/L	50.0	ug/L	74.9	10-173			
2,6-Dinitrotoluene	32.0 ug/L	10.0	ug/L	50.0	ug/L	64.0	68-137			L
2-Chloronaphthalene	29.2 ug/L	10.0	ug/L	50.0	ug/L	58.3	65-120			L
2-Chlorophenol	30.5 ug/L	10.0	ug/L	50.0	ug/L	61.0	36-120			
2-Nitrophenol	32.3 ug/L	10.0	ug/L	50.0	ug/L	64.7	45-167			
3,3'-Dichlorobenzidine	27.8 ug/L	10.0	ug/L	50.0	ug/L	55.6	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	66.8	53-130			
4-Bromophenyl phenyl ether	30.4 ug/L	10.0	ug/L	50.0	ug/L	60.7	65-120			L
4-Chlorophenyl phenyl ether	27.9 ug/L	10.0	ug/L	50.0	ug/L	55.8	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	28.6	13-129			
Acenaphthene	31.4 ug/L	10.0	ug/L	50.0	ug/L	62.8	60-132			
Acenaphthylene	32.9 ug/L	10.0	ug/L	50.0	ug/L	65.8	54-126			
Acetophenone	30.6 ug/L	20.0	ug/L	50.0	ug/L	61.1	0-200			
Anthracene	30.4 ug/L	10.0	ug/L	50.0	ug/L	60.7	43-120			
Benzo (a) anthracene	39.7 ug/L	10.0	ug/L	50.0	ug/L	79.4	42-133			
Benzo (a) pyrene	43.7 ug/L	10.0	ug/L	50.0	ug/L	87.5	32-148			
Benzo (b) fluoranthene	46.1 ug/L	10.0	ug/L	50.0	ug/L	92.2	42-140			
Benzo (g,h,i) perylene	39.5 ug/L	10.0	ug/L	50.0	ug/L	79.0	10-195			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 11, 2023 16:41
Project Number: [none]
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

LCS (BGL0240-BS1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

Benzo (k) fluoranthene	40.3 ug/L	10.0	ug/L	50.0	ug/L	80.5	25-146			
bis (2-Chloroethoxy) methane	30.7 ug/L	10.0	ug/L	50.0	ug/L	61.5	49-165			
bis (2-Chloroethyl) ether	28.1 ug/L	10.0	ug/L	50.0	ug/L	56.3	43-126			
2,2'-Oxybis (1-chloropropane)	29.4 ug/L	10.0	ug/L	50.0	ug/L	58.7	63-139			L
bis (2-Ethylhexyl) phthalate	41.2 ug/L	10.0	ug/L	50.0	ug/L	82.5	29-137			
Butyl benzyl phthalate	41.2 ug/L	10.0	ug/L	50.0	ug/L	82.5	10-140			
Chrysene	40.7 ug/L	10.0	ug/L	50.0	ug/L	81.5	44-140			
Dibenz (a,h) anthracene	41.9 ug/L	10.0	ug/L	50.0	ug/L	83.8	10-200			
Diethyl phthalate	35.1 ug/L	10.0	ug/L	50.0	ug/L	70.3	10-120			
Dimethyl phthalate	30.9 ug/L	10.0	ug/L	50.0	ug/L	61.8	10-120			
Di-n-butyl phthalate	39.3 ug/L	10.0	ug/L	50.0	ug/L	78.6	10-120			
Di-n-octyl phthalate	50.0 ug/L	10.0	ug/L	50.0	ug/L	100	19-132			
Fluoranthene	40.6 ug/L	10.0	ug/L	50.0	ug/L	81.3	43-121			
Fluorene	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.8	70-120			L
Hexachlorobenzene	25.2 ug/L	1.00	ug/L	50.0	ug/L	50.5	10-142			
Hexachlorobutadiene	24.8 ug/L	10.0	ug/L	50.0	ug/L	49.6	38-120			
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L	50.0	ug/L	14.7	10-76			
Hexachloroethane	26.2 ug/L	10.0	ug/L	50.0	ug/L	52.4	55-120			L
Indeno (1,2,3-cd) pyrene	39.1 ug/L	10.0	ug/L	50.0	ug/L	78.2	10-151			
Isophorone	21.8 ug/L	10.0	ug/L	50.0	ug/L	43.5	47-180			L
Naphthalene	28.8 ug/L	5.00	ug/L	50.0	ug/L	57.5	36-120			
Nitrobenzene	32.2 ug/L	10.0	ug/L	50.0	ug/L	64.5	54-158			
n-Nitrosodimethylamine	21.5 ug/L	10.0	ug/L	50.0	ug/L	42.9	10-85			
n-Nitrosodi-n-propylamine	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.3	14-198			
n-Nitrosodiphenylamine	27.4 ug/L	10.0	ug/L	50.0	ug/L	54.8	12-97			
p-Chloro-m-cresol	32.8 ug/L	10.0	ug/L	50.0	ug/L	65.6	10-142			
Pentachlorophenol	33.0 ug/L	20.0	ug/L	50.0	ug/L	65.9	38-152			
Phenanthrene	41.4 ug/L	10.0	ug/L	50.0	ug/L	82.8	65-120			
Phenol	12.9 ug/L	10.0	ug/L	50.5	ug/L	25.6	17-120			
Pyrene	38.4 ug/L	10.0	ug/L	50.0	ug/L	76.9	70-120			
Pyridine	26.2 ug/L	10.0	ug/L	50.0	ug/L	52.5	10-103			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0240 - SW3510C/EPA600-MS

LCS (BGL0240-BS1)

Prepared: 12/07/2023 Analyzed: 12/08/2023

Surr: 2,4,6-Tribromophenol (Surr)	79.5		ug/L	100	ug/L	79.5	5-136			
Surr: 2-Fluorobiphenyl (Surr)	30.7		ug/L	50.0	ug/L	61.5	9-117			
Surr: 2-Fluorophenol (Surr)	46.0		ug/L	100	ug/L	46.0	5-60			
Surr: Nitrobenzene-d5 (Surr)	33.1		ug/L	50.0	ug/L	66.1	5-151			
Surr: Phenol-d5 (Surr)	29.2		ug/L	100	ug/L	29.2	5-60			
Surr: p-Terphenyl-d14 (Surr)	37.5		ug/L	50.0	ug/L	75.0	5-141			



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Summary of Data Qualifiers

L LCS recovery is outside of established acceptance limits

RPD Relative Percent Difference

Qual Qualifiers








-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: <u>Total Env. Concepts</u>		INVOICE TO: <u>AP@hcci.pr</u>		PROJECT NAME/Quote #: <u>Halstead</u>																																																																																																																																					
CONTACT: <u>Shanna Hrynjak</u>		INVOICE CONTACT: <u>Tyann Best</u>		SITE NAME:																																																																																																																																					
ADDRESS:		INVOICE ADDRESS:		PROJECT NUMBER:																																																																																																																																					
PHONE #: <u>(804) 389-7983</u>		INVOICE PHONE #:		P.O. #: <u>4260155-001</u>																																																																																																																																					
FAX #:		EMAIL: <u>Shrynjak@hcci.pr</u>		Pretreatment Program:																																																																																																																																					
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State: <u>MD</u>		PWS I.D. #:																																																																																																																																					
SAMPLER NAME (PRINT): <u>Shanna Hrynjak</u>		SAMPLER SIGNATURE: 		Turn Around Time: <u>Circle 10</u> 5 Days or <u>3</u> Day(s)																																																																																																																																					
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other																																																																																																																																									
CLIENT SAMPLE I.D.																																																																																																																																									
ANALYSIS / (PRESERVATIVE)																																																																																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Client Sample I.D.</th> <th>Grab</th> <th>Composite</th> <th>Field Filtered (Dissolved Metals)</th> <th>Composite Start Date</th> <th>Composite Stop Date</th> <th>Grab Time or Composite Stop Time</th> <th>Time Preserved</th> <th>Matrix (See Codes)</th> <th>Number of Containers</th> <th>VOCs 8260</th> <th>SVOCs 8270</th> </tr> <tr> <td>1) 1458 Coopers Cove</td> <td>X</td> <td></td> <td></td> <td>12/15/23</td> <td>1140</td> <td>500</td> <td>Gw</td> <td>6</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>2) 1515 Coopers Cove</td> <td>X</td> <td></td> <td></td> <td>12/15/23</td> <td>1045</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>3) 35 Patzel (can)</td> <td>X</td> <td></td> <td></td> <td>12/14/23</td> <td>315</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>4) 1850 Coopers Cove</td> <td>X</td> <td></td> <td></td> <td>12/14/23</td> <td>420</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>5) 1451 Coopers Cove</td> <td>X</td> <td></td> <td></td> <td>12/14/23</td> <td>500</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>6) trip blank</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>7)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						Client Sample I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	VOCs 8260	SVOCs 8270	1) 1458 Coopers Cove	X			12/15/23	1140	500	Gw	6	X	X		2) 1515 Coopers Cove	X			12/15/23	1045				X	X		3) 35 Patzel (can)	X			12/14/23	315				X	X		4) 1850 Coopers Cove	X			12/14/23	420				X	X		5) 1451 Coopers Cove	X			12/14/23	500				X	X		6) trip blank									2			7)												8)												9)												10)											
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<p>Preservative Codes: N=Nitric Acid, C=Chloroacetic Acid, S=Sulfuric Acid, H=Hydrochloric Acid, A=Ascorbic Acid, Z=Zinc Acetate, T=Sodium Thiosulfate, M=Methanol</p> <p>DEP State lead</p> <p>PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (U/min)</p>																																																																																																																																									
RELINQUISHED: 		RECEIVED: 		COOLER TEMP: <u>4.9</u> °C																																																																																																																																					
DATE / TIME: <u>12/13/23 1040</u>		DATE / TIME: <u>12/16/23</u>		Received on ice? <input checked="" type="checkbox"/> (N)																																																																																																																																					
RELINQUISHED: 		RECEIVED: 		TEC-Springfield 23L0214																																																																																																																																					
DATE / TIME: <u>12/13/23 1040</u>		DATE / TIME: <u>12/16/23</u>		Halstead																																																																																																																																					
RELINQUISHED: 		RECEIVED: 		Recd: 12/06/2023 Due: 12/11/2023																																																																																																																																					
DATE / TIME: <u>12/13/23 1040</u>		DATE / TIME: <u>12/16/23</u>																																																																																																																																							



Sample Preservation Log

Order ID: 2310214

Date Performed: 12/6/23

Analyst Performing Check: CSB

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (508/509/500) PCB DW only		SVOC (525/627/625)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH						
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received	Final pH	Received	Final pH	Received	Final pH	Received	Final pH			
1	D																																	
2	D																																	
3	D																																	
4	D																																	
5	D																																	

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____
 HCL ID: _____ Na2SO3 ID: _____
 CRVI preserved date/time: _____
 * pH must be adjusted between 9.3 - 9.7
 Ammonia Buffer Sol'n ID: _____
 5N NaOH ID: _____



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 11, 2023 16:41
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	4.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes



Appendix G

Public Meeting Fact Sheet

Coopers Cove Community Petroleum Release

Overview

Petroleum compounds have been detected in drinking water wells in the Coopers Cove community in Franklin and Roanoke counties. The Virginia Department of Environmental Quality (DEQ) is working to identify the source of the release and providing alternate water sources until a permanent source of clean water is available.

What is DEQ doing in our community?

- DEQ and its contractors (“DEQ”) are working to identify the source and extent of the petroleum contamination. DEQ is collecting samples from residential drinking water wells to determine the spread of the contamination.
- DEQ is providing safe drinking water at no charge to impacted residents.

What is DEQ doing next?

- DEQ will continue to collect samples from surrounding properties to identify additional impacted drinking water wells, the extent of the contamination, and determine applicable remediation actions.
- DEQ will install carbon filtration units (CFUs) at properties with impacted water supply wells. One CFU has been installed for the initial drinking water well that was reported. Two installations are scheduled for next week. Installations will continue for the remaining affected wells over the next several weeks.
- Once the responsible person, or persons, has been identified, DEQ will require them to investigate and remediate the contamination. DEQ may also seek reimbursement from potential responsible parties for the expenditures of public funds in providing the community safe drinking water and for our costs to investigate this release.

What is a CFU?

- CFUs are filtration vessels that are equipped with granular activated carbon, designed to remove common contaminants (including petroleum products) from drinking water supplies.
- CFUs will be installed and maintained by DEQ’s contractor, Culligan-Stoner Quality Water. CFUs are designed with each residence in mind based on the number of individuals, amount of water used, and the specific groundwater conditions.
- Water treated by CFUs can be used for all everyday activities, including drinking, food prep, showering, and laundry.

Where can I learn more?

- DEQ, along with the local and state health departments, will host a public meeting in the next few weeks to provide the community with updates.

Who should I contact with questions?

- Questions about the petroleum release: David Kirby, (540) 598-1502, or David.Kirby@DEQ.Virginia.gov.
- General questions about CFUs or water supplies: Chad Quesenberry, (276) 698-7465 or Chad.Quesenberry@DEQ.Virginia.gov.
- Questions about CFUs after they are installed: Culligan-Stoner Quality Water, (301) 797-0311 or 1-800-751-4512 Ext: 103
- Media inquiries: Julia Raimondi, (804) 659-2654 or Julia.Raimondi@DEQ.Virginia.gov.

Map of Affected Area



December 10, 2023

DEQ.Virginia.gov



Appendix H

Laboratory Analytical Report (12/11-12/12/2023)



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Certificate of Analysis

Final Report

Laboratory Order ID 23L0783

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Date Received: December 13, 2023 15:00

Date Issued: December 18, 2023 14:49

Project Number: 4260155

Purchase Order: 4260155-001

Enclosed are the results of analyses for samples received by the laboratory on 12/13/2023 15:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'm. mishra' with a horizontal line extending to the right.

Mandy Mishra
Laboratory Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L0783

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
L. Blankenship 1755 Coopers Cove Rd	23L0783-01	Ground Water	12/11/2023 16:00	12/13/2023 15:00
L. Rehak 104 Ridgecrest Rd	23L0783-02	Ground Water	12/11/2023 16:00	12/13/2023 15:00
W. Childress 1739 Coopers Cove Rd	23L0783-03	Ground Water	12/11/2023 16:00	12/13/2023 15:00
S. Anderson 1719 Coopers Cove Rd	23L0783-04	Ground Water	12/11/2023 16:00	12/13/2023 15:00
T. Fitzgerald-17 17 Ridgecrest Rd	23L0783-05	Ground Water	12/12/2023 16:30	12/13/2023 15:00
T. Fitzgerald-46 46 Ridgecrest Rd	23L0783-06	Ground Water	12/12/2023 16:30	12/13/2023 15:00
S. Mills 1430 Coopers Cove Rd	23L0783-07	Ground Water	12/12/2023 16:30	12/13/2023 15:00
M. Armbrister 1555 Coopers Cove Rd	23L0783-09	Ground Water	12/12/2023 16:30	12/13/2023 15:00



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship

Laboratory Sample ID: 23L0783-01

Grab Date/Time: 12/11/2023 16:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/14/23 16:44	12/14/23 16:44	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/14/23 16:44	12/14/23 16:44	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship

Laboratory Sample ID: 23L0783-01

Grab Date/Time: 12/11/2023 16:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/14/23 16:44	12/14/23 16:44	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/14/23 16:44	12/14/23 16:44	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/14/23 16:44	12/14/23 16:44	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/14/23 16:44	12/14/23 16:44	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/14/23 16:44	12/14/23 16:44	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship	Laboratory Sample ID: 23L0783-01
Grab Date/Time: 12/11/2023 16:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	1.85 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/14/23 16:44	12/14/23 16:44	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/14/23 16:44	12/14/23 16:44	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/14/23 16:44	12/14/23 16:44	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	97.4 %		70-120		12/14/23 16:44	12/14/23 16:44	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	108 %		75-120		12/14/23 16:44	12/14/23 16:44	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	99.5 %		70-130		12/14/23 16:44	12/14/23 16:44	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	102 %		70-130		12/14/23 16:44	12/14/23 16:44	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship	Laboratory Sample ID: 23L0783-01
Grab Date/Time: 12/11/2023 16:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 21:54	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship

Laboratory Sample ID: 23L0783-01

Grab Date/Time: 12/11/2023 16:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship

Laboratory Sample ID: 23L0783-01

Grab Date/Time: 12/11/2023 16:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 21:54	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/14/23 21:54	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 21:54	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Blankenship	Laboratory Sample ID: 23L0783-01
Grab Date/Time: 12/11/2023 16:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 21:54	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 21:54	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	65.3 %		5-136		12/14/23 09:00	12/14/23 21:54	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	58.5 %		9-117		12/14/23 09:00	12/14/23 21:54	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	37.2 %		5-60		12/14/23 09:00	12/14/23 21:54	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	66.8 %		5-151		12/14/23 09:00	12/14/23 21:54	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	25.6 %		5-60		12/14/23 09:00	12/14/23 21:54	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	48.2 %		5-141		12/14/23 09:00	12/14/23 21:54	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak

Laboratory Sample ID: 23L0783-02

Grab Date/Time: 12/11/2023 16:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:08	12/14/23 17:08	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:08	12/14/23 17:08	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak Laboratory Sample ID: 23L0783-02
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:08	12/14/23 17:08	RJB
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:08	12/14/23 17:08	RJB
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	12/14/23 17:08	12/14/23 17:08	RJB
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:08	12/14/23 17:08	RJB
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	12/14/23 17:08	12/14/23 17:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak	Laboratory Sample ID: 23L0783-02
Grab Date/Time: 12/11/2023 16:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	1.57 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:08	12/14/23 17:08	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:08	12/14/23 17:08	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/14/23 17:08	12/14/23 17:08	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	98.4 %		70-120		12/14/23 17:08	12/14/23 17:08	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	107 %		75-120		12/14/23 17:08	12/14/23 17:08	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	99.5 %		70-130		12/14/23 17:08	12/14/23 17:08	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	101 %		70-130		12/14/23 17:08	12/14/23 17:08	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak

Laboratory Sample ID: 23L0783-02

Grab Date/Time: 12/11/2023 16:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 22:23	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak Laboratory Sample ID: 23L0783-02
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak Laboratory Sample ID: 23L0783-02
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:23	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/14/23 22:23	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:23	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. L. Rehak	Laboratory Sample ID: 23L0783-02
Grab Date/Time: 12/11/2023 16:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 22:23	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:23	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	52.5 %		5-136		12/14/23 09:00	12/14/23 22:23	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	55.0 %		9-117		12/14/23 09:00	12/14/23 22:23	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	32.1 %		5-60		12/14/23 09:00	12/14/23 22:23	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	62.5 %		5-151		12/14/23 09:00	12/14/23 22:23	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	22.9 %		5-60		12/14/23 09:00	12/14/23 22:23	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	47.4 %		5-141		12/14/23 09:00	12/14/23 22:23	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:31	12/14/23 17:31	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:31	12/14/23 17:31	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:31	12/14/23 17:31	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:31	12/14/23 17:31	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	12/14/23 17:31	12/14/23 17:31	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:31	12/14/23 17:31	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	12/14/23 17:31	12/14/23 17:31	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress	Laboratory Sample ID: 23L0783-03
Grab Date/Time: 12/11/2023 16:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	8.31 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:31	12/14/23 17:31	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:31	12/14/23 17:31	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	12/14/23 17:31	12/14/23 17:31	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	98.0 %		70-120		12/14/23 17:31	12/14/23 17:31	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	107 %		75-120		12/14/23 17:31	12/14/23 17:31	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	99.7 %		70-130		12/14/23 17:31	12/14/23 17:31	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	101 %		70-130		12/14/23 17:31	12/14/23 17:31	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1,2-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1,2-Diphenylhydrazine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1,3-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1,3-Dinitrobenzene	03	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 22:53	BMS
1,4-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
1-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4,5-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4,6-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4-Dimethylphenol	03	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4-Dinitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,4-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,6-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,6-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Chloronaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Chlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Methylnaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2-Nitrophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
3-Methylcholanthrene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
3-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Aminobiphenyl	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Chloroaniline	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
4-Nitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Acenaphthene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Acenaphthylene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Acetophenone	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Aniline	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzidine	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzo (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzo (a) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzo (b) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzo (g,h,i) perylene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzo (k) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzoic acid	03	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Benzyl alcohol	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Chrysene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Dibenz (a,h) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Dibenz (a,j) acridine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Dibenzofuran	03	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:53	BMS
Diethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Dimethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Di-n-butyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Di-n-octyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Diphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Ethyl methanesulfonate	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Fluorene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Hexachlorobenzene	03	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/14/23 22:53	BMS
Hexachlorobutadiene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Hexachlorocyclopentadiene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Hexachloroethane	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Isophorone	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Methyl methanesulfonate	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Naphthalene	03	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 22:53	BMS
Nitrobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
n-Nitrosodimethylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. W. Childress Laboratory Sample ID: 23L0783-03
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
n-Nitrosopiperidine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
o+m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
o-Cresol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 22:53	BMS
p-Chloro-m-cresol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Pentachlorophenol	03	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Phenacetin	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Phenanthrene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Phenol	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Pronamide	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Pyridine	03	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 22:53	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	50.6 %		5-136		12/14/23 09:00	12/14/23 22:53	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	54.5 %		9-117		12/14/23 09:00	12/14/23 22:53	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	32.7 %		5-60		12/14/23 09:00	12/14/23 22:53	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	61.9 %		5-151		12/14/23 09:00	12/14/23 22:53	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	22.5 %		5-60		12/14/23 09:00	12/14/23 22:53	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	43.3 %		5-141		12/14/23 09:00	12/14/23 22:53	BMS



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Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson Laboratory Sample ID: 23L0783-04
 Grab Date/Time: 12/11/2023 16:00
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS				Sample Qualifier:		CI			
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	12/14/23 17:54	12/14/23 17:54	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	12/14/23 17:54	12/14/23 17:54	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/14/23 17:54	12/14/23 17:54	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/14/23 17:54	12/14/23 17:54	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson Laboratory Sample ID: 23L0783-04
 Grab Date/Time: 12/11/2023 16:00
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS				Sample Qualifier:		CI			
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L	5.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Acetone	04	SW8260D	16.2 ug/L	10.0	1	12/14/23 17:54	12/14/23 17:54	RJB	
Benzene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Bromobenzene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Bromochloromethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Bromodichloromethane	04	SW8260D	1.15 ug/L	0.50	1	12/14/23 17:54	12/14/23 17:54	RJB	
Bromoform	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Bromomethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Carbon disulfide	04	SW8260D	<10.0 ug/L	10.0	1	12/14/23 17:54	12/14/23 17:54	RJB	
Carbon tetrachloride	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Chlorobenzene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Chloroethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Chloroform	04	SW8260D	2.62 ug/L	0.50	1	12/14/23 17:54	12/14/23 17:54	RJB	
Chloromethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Dibromochloromethane	04	SW8260D	0.69 ug/L	0.50	1	12/14/23 17:54	12/14/23 17:54	RJB	
Dibromomethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L	5.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Ethylbenzene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L	0.80	1	12/14/23 17:54	12/14/23 17:54	RJB	
Iodomethane	04	SW8260D	<10.0 ug/L	10.0	1	12/14/23 17:54	12/14/23 17:54	RJB	
Isopropylbenzene	04	SW8260D	<1.00 ug/L	1.00	1	12/14/23 17:54	12/14/23 17:54	RJB	
m+p-Xylenes	04	SW8260D	<2.00 ug/L	2.00	1	12/14/23 17:54	12/14/23 17:54	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson	Laboratory Sample ID: 23L0783-04
Grab Date/Time: 12/11/2023 16:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS				Sample Qualifier:		Cl			
Methylene chloride	04	SW8260D	<4.00 ug/L	4.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	28.2 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Naphthalene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
o-Xylene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Styrene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Toluene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L	1.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L	10.0	1		12/14/23 17:54	12/14/23 17:54	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L	0.50	1		12/14/23 17:54	12/14/23 17:54	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L	3.00	1		12/14/23 17:54	12/14/23 17:54	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	98.4 %	70-120			12/14/23 17:54	12/14/23 17:54	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	108 %	75-120			12/14/23 17:54	12/14/23 17:54	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	99.6 %	70-130			12/14/23 17:54	12/14/23 17:54	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	98.2 %	70-130			12/14/23 17:54	12/14/23 17:54	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 18, 2023 14:49
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson	Laboratory Sample ID: 23L0783-04
Grab Date/Time: 12/11/2023 16:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1,2-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1,2-Diphenylhydrazine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1,3-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1,3-Dinitrobenzene	04	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 23:23	BMS
1,4-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
1-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4,5-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4,6-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4-Dimethylphenol	04	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4-Dinitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,4-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,6-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,6-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Chloronaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Chlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Methylnaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2-Nitrophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
3-Methylcholanthrene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
3-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson

Laboratory Sample ID: 23L0783-04

Grab Date/Time: 12/11/2023 16:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Aminobiphenyl	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Chloroaniline	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
4-Nitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Acenaphthene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Acenaphthylene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Acetophenone	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Aniline	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzidine	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzo (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzo (a) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzo (b) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzo (g,h,i) perylene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzo (k) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzoic acid	04	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Benzyl alcohol	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 18, 2023 14:49
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson	Laboratory Sample ID: 23L0783-04
Grab Date/Time: 12/11/2023 16:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Chrysene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Dibenz (a,h) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Dibenz (a,j) acridine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Dibenzofuran	04	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:23	BMS
Diethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Dimethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Di-n-butyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Di-n-octyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Diphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Ethyl methanesulfonate	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Fluorene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Hexachlorobenzene	04	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/14/23 23:23	BMS
Hexachlorobutadiene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Hexachlorocyclopentadiene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Hexachloroethane	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Isophorone	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Methyl methanesulfonate	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Naphthalene	04	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:23	BMS
Nitrobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
n-Nitrosodimethylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Anderson Laboratory Sample ID: 23L0783-04
 Grab Date/Time: 12/11/2023 16:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
n-Nitrosopiperidine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
o+m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
o-Cresol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 23:23	BMS
p-Chloro-m-cresol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Pentachlorophenol	04	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Phenacetin	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Phenanthrene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Phenol	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Pronamide	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Pyridine	04	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:23	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	56.6 %		5-136		12/14/23 09:00	12/14/23 23:23	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	51.8 %		9-117		12/14/23 09:00	12/14/23 23:23	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	32.5 %		5-60		12/14/23 09:00	12/14/23 23:23	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	59.7 %		5-151		12/14/23 09:00	12/14/23 23:23	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	22.1 %		5-60		12/14/23 09:00	12/14/23 23:23	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	57.2 %		5-141		12/14/23 09:00	12/14/23 23:23	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17	Laboratory Sample ID: 23L0783-05
Grab Date/Time: 12/12/2023 16:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:17	12/14/23 18:17	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:17	12/14/23 18:17	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17 Laboratory Sample ID: 23L0783-05
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Acetone	05	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:17	12/14/23 18:17	RJB
Benzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Bromobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Bromochloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Bromodichloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
Bromoform	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Bromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Carbon disulfide	05	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:17	12/14/23 18:17	RJB
Carbon tetrachloride	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Chlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Chloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Chloroform	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
Chloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Dibromochloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
Dibromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Ethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L		0.80	1	12/14/23 18:17	12/14/23 18:17	RJB
Iodomethane	05	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:17	12/14/23 18:17	RJB
Isopropylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
m+p-Xylenes	05	SW8260D	<2.00 ug/L		2.00	1	12/14/23 18:17	12/14/23 18:17	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17	Laboratory Sample ID: 23L0783-05
Grab Date/Time: 12/12/2023 16:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:17	12/14/23 18:17	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:17	12/14/23 18:17	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	12/14/23 18:17	12/14/23 18:17	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	95.7 %		70-120		12/14/23 18:17	12/14/23 18:17	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	108 %		75-120		12/14/23 18:17	12/14/23 18:17	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	98.2 %		70-130		12/14/23 18:17	12/14/23 18:17	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	101 %		70-130		12/14/23 18:17	12/14/23 18:17	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17

Laboratory Sample ID: 23L0783-05

Grab Date/Time: 12/12/2023 16:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1,2,4-Trichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1,2-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1,2-Diphenylhydrazine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1,3-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1,3-Dinitrobenzene	05	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 23:52	BMS
1,4-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
1-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,3,4,6-Tetrachlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4,5-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4,6-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4-Dimethylphenol	05	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4-Dinitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,4-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,6-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,6-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Chloronaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Chlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Methylnaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2-Nitrophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
3,3'-Dichlorobenzidine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
3-Methylcholanthrene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
3-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS



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Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17

Laboratory Sample ID: 23L0783-05

Grab Date/Time: 12/12/2023 16:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Aminobiphenyl	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Bromophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Chloroaniline	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Chlorophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
4-Nitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
7,12-Dimethylbenz (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Acenaphthene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Acenaphthylene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Acetophenone	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Aniline	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzidine	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzo (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzo (a) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzo (b) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzo (g,h,i) perylene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzo (k) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzoic acid	05	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Benzyl alcohol	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
bis (2-Chloroethoxy) methane	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
bis (2-Chloroethyl) ether	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
2,2'-Oxybis (1-chloropropane)	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
bis (2-Ethylhexyl) phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17	Laboratory Sample ID: 23L0783-05
Grab Date/Time: 12/12/2023 16:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Chrysene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Dibenz (a,h) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Dibenz (a,j) acridine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Dibenzofuran	05	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:52	BMS
Diethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Dimethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Di-n-butyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Di-n-octyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Diphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Ethyl methanesulfonate	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Fluorene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Hexachlorobenzene	05	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/14/23 23:52	BMS
Hexachlorobutadiene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Hexachlorocyclopentadiene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Hexachloroethane	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Indeno (1,2,3-cd) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Isophorone	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Methyl methanesulfonate	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Naphthalene	05	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/14/23 23:52	BMS
Nitrobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
n-Nitrosodimethylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
n-Nitrosodi-n-butylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
n-Nitrosodi-n-propylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-17 Laboratory Sample ID: 23L0783-05
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
n-Nitrosopiperidine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
o+m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
o-Cresol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
p-(Dimethylamino) azobenzene	05	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/14/23 23:52	BMS
p-Chloro-m-cresol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Pentachloronitrobenzene (quintozene)	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Pentachlorophenol	05	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Phenacetin	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Phenanthrene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Phenol	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Pronamide	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Pyridine	05	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/14/23 23:52	BMS
Surr: 2,4,6-Tribromophenol (Surr)	05	SW8270E	46.5 %		5-136		12/14/23 09:00	12/14/23 23:52	BMS
Surr: 2-Fluorobiphenyl (Surr)	05	SW8270E	49.9 %		9-117		12/14/23 09:00	12/14/23 23:52	BMS
Surr: 2-Fluorophenol (Surr)	05	SW8270E	27.8 %		5-60		12/14/23 09:00	12/14/23 23:52	BMS
Surr: Nitrobenzene-d5 (Surr)	05	SW8270E	56.0 %		5-151		12/14/23 09:00	12/14/23 23:52	BMS
Surr: Phenol-d5 (Surr)	05	SW8270E	21.2 %		5-60		12/14/23 09:00	12/14/23 23:52	BMS
Surr: p-Terphenyl-d14 (Surr)	05	SW8270E	49.9 %		5-141		12/14/23 09:00	12/14/23 23:52	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46 Laboratory Sample ID: 23L0783-06
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1,1-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1,2,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1,2-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,1-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2,3-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2,3-Trichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2,4-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2,4-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2-Dibromo-3-chloropropane (DBCP)	06	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2-Dibromoethane (EDB)	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2-Dichlorobenzene	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,2-Dichloropropane	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
1,3,5-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,3-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,3-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
1,4-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
2,2-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
2-Butanone (MEK)	06	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:40	12/14/23 18:40	RJB
2-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
2-Hexanone (MBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:40	12/14/23 18:40	RJB
4-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46

Laboratory Sample ID: 23L0783-06

Grab Date/Time: 12/12/2023 16:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
4-Methyl-2-pentanone (MIBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Acetone	06	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:40	12/14/23 18:40	RJB
Benzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Bromobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Bromochloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Bromodichloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
Bromoform	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Bromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Carbon disulfide	06	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:40	12/14/23 18:40	RJB
Carbon tetrachloride	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Chlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Chloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Chloroform	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
Chloromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
cis-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
cis-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Dibromochloromethane	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
Dibromomethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Dichlorodifluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Di-isopropyl ether (DIPE)	06	SW8260D	<5.00 ug/L		5.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Ethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Hexachlorobutadiene	06	SW8260D	<0.80 ug/L		0.80	1	12/14/23 18:40	12/14/23 18:40	RJB
Iodomethane	06	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:40	12/14/23 18:40	RJB
Isopropylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
m+p-Xylenes	06	SW8260D	<2.00 ug/L		2.00	1	12/14/23 18:40	12/14/23 18:40	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46 Laboratory Sample ID: 23L0783-06
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	06	SW8260D	<4.00 ug/L		4.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Methyl-t-butyl ether (MTBE)	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Naphthalene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
n-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
n-Propylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
o-Xylene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
sec-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Styrene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
tert-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Tetrachloroethylene (PCE)	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Toluene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
trans-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
trans-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Trichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Trichlorofluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Vinyl acetate	06	SW8260D	<10.0 ug/L		10.0	1	12/14/23 18:40	12/14/23 18:40	RJB
Vinyl chloride	06	SW8260D	<0.50 ug/L		0.50	1	12/14/23 18:40	12/14/23 18:40	RJB
Xylenes, Total	06	SW8260D	<3.00 ug/L		3.00	1	12/14/23 18:40	12/14/23 18:40	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	06	SW8260D	96.5 %		70-120		12/14/23 18:40	12/14/23 18:40	RJB
Surr: 4-Bromofluorobenzene (Surr)	06	SW8260D	107 %		75-120		12/14/23 18:40	12/14/23 18:40	RJB
Surr: Dibromofluoromethane (Surr)	06	SW8260D	98.7 %		70-130		12/14/23 18:40	12/14/23 18:40	RJB
Surr: Toluene-d8 (Surr)	06	SW8260D	102 %		70-130		12/14/23 18:40	12/14/23 18:40	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46

Laboratory Sample ID: 23L0783-06

Grab Date/Time: 12/12/2023 16:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1,2,4-Trichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1,2-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1,2-Diphenylhydrazine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1,3-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1,3-Dinitrobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 00:22	BMS
1,4-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
1-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,3,4,6-Tetrachlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4,5-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4,6-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4-Dimethylphenol	06	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4-Dinitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,4-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,6-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,6-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Chloronaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Chlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Methylnaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2-Nitrophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
3,3'-Dichlorobenzidine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
3-Methylcholanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
3-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46 Laboratory Sample ID: 23L0783-06
 Grab Date/Time: 12/12/2023 16:30
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Aminobiphenyl	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Bromophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Chloroaniline	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Chlorophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
4-Nitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
7,12-Dimethylbenz (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Acenaphthene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Acenaphthylene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Acetophenone	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Aniline	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzidine	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzo (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzo (a) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzo (b) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzo (g,h,i) perylene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzo (k) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzoic acid	06	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Benzyl alcohol	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
bis (2-Chloroethoxy) methane	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
bis (2-Chloroethyl) ether	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
2,2'-Oxybis (1-chloropropane)	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
bis (2-Ethylhexyl) phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS



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Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46

Laboratory Sample ID: 23L0783-06

Grab Date/Time: 12/12/2023 16:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Chrysene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Dibenz (a,h) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Dibenz (a,j) acridine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Dibenzofuran	06	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:22	BMS
Diethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Dimethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Di-n-butyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Di-n-octyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Diphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Ethyl methanesulfonate	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Fluorene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Hexachlorobenzene	06	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/15/23 00:22	BMS
Hexachlorobutadiene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Hexachlorocyclopentadiene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Hexachloroethane	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Indeno (1,2,3-cd) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Isophorone	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Methyl methanesulfonate	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Naphthalene	06	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:22	BMS
Nitrobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
n-Nitrosodimethylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
n-Nitrosodi-n-butylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
n-Nitrosodi-n-propylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. T. Fitzgerald-46 Laboratory Sample ID: 23L0783-06
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
n-Nitrosopiperidine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
o+m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
o-Cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
p-(Dimethylamino) azobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 00:22	BMS
p-Chloro-m-cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Pentachloronitrobenzene (quintozene)	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Pentachlorophenol	06	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Phenacetin	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Phenanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Phenol	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Pronamide	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Pyridine	06	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:22	BMS
Surr: 2,4,6-Tribromophenol (Surr)	06	SW8270E	57.2 %		5-136		12/14/23 09:00	12/15/23 00:22	BMS
Surr: 2-Fluorobiphenyl (Surr)	06	SW8270E	60.4 %		9-117		12/14/23 09:00	12/15/23 00:22	BMS
Surr: 2-Fluorophenol (Surr)	06	SW8270E	35.4 %		5-60		12/14/23 09:00	12/15/23 00:22	BMS
Surr: Nitrobenzene-d5 (Surr)	06	SW8270E	68.0 %		5-151		12/14/23 09:00	12/15/23 00:22	BMS
Surr: Phenol-d5 (Surr)	06	SW8270E	25.4 %		5-60		12/14/23 09:00	12/15/23 00:22	BMS
Surr: p-Terphenyl-d14 (Surr)	06	SW8270E	50.0 %		5-141		12/14/23 09:00	12/15/23 00:22	BMS



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 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills Laboratory Sample ID: 23L0783-07
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1,1-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1,2,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1,2-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,1-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2,3-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2,3-Trichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2,4-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2,4-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2-Dibromo-3-chloropropane (DBCP)	07	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2-Dibromoethane (EDB)	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2-Dichlorobenzene	07	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,2-Dichloropropane	07	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:04	12/14/23 19:04	RJB
1,3,5-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,3-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,3-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
1,4-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
2,2-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
2-Butanone (MEK)	07	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:04	12/14/23 19:04	RJB
2-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
2-Hexanone (MBK)	07	SW8260D	<5.00 ug/L		5.00	1	12/14/23 19:04	12/14/23 19:04	RJB
4-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB



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Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills Laboratory Sample ID: 23L0783-07
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
4-Methyl-2-pentanone (MIBK)	07	SW8260D	<5.00 ug/L	5.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Acetone	07	SW8260D	<10.0 ug/L	10.0	1	12/14/23 19:04	12/14/23 19:04	RJB	
Benzene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Bromobenzene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Bromochloromethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Bromodichloromethane	07	SW8260D	<0.50 ug/L	0.50	1	12/14/23 19:04	12/14/23 19:04	RJB	
Bromoform	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Bromomethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Carbon disulfide	07	SW8260D	<10.0 ug/L	10.0	1	12/14/23 19:04	12/14/23 19:04	RJB	
Carbon tetrachloride	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Chlorobenzene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Chloroethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Chloroform	07	SW8260D	<0.50 ug/L	0.50	1	12/14/23 19:04	12/14/23 19:04	RJB	
Chloromethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
cis-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
cis-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Dibromochloromethane	07	SW8260D	<0.50 ug/L	0.50	1	12/14/23 19:04	12/14/23 19:04	RJB	
Dibromomethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Dichlorodifluoromethane	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Di-isopropyl ether (DIPE)	07	SW8260D	<5.00 ug/L	5.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Ethylbenzene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
Hexachlorobutadiene	07	SW8260D	<0.80 ug/L	0.80	1	12/14/23 19:04	12/14/23 19:04	RJB	
Iodomethane	07	SW8260D	<10.0 ug/L	10.0	1	12/14/23 19:04	12/14/23 19:04	RJB	
Isopropylbenzene	07	SW8260D	<1.00 ug/L	1.00	1	12/14/23 19:04	12/14/23 19:04	RJB	
m+p-Xylenes	07	SW8260D	<2.00 ug/L	2.00	1	12/14/23 19:04	12/14/23 19:04	RJB	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills Laboratory Sample ID: 23L0783-07
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	07	SW8260D	<4.00 ug/L		4.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Methyl-t-butyl ether (MTBE)	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Naphthalene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
n-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
n-Propylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
o-Xylene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
sec-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Styrene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
tert-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Tetrachloroethylene (PCE)	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Toluene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
trans-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
trans-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Trichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Trichlorofluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Vinyl acetate	07	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:04	12/14/23 19:04	RJB
Vinyl chloride	07	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:04	12/14/23 19:04	RJB
Xylenes, Total	07	SW8260D	<3.00 ug/L		3.00	1	12/14/23 19:04	12/14/23 19:04	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	SW8260D	97.0 %		70-120		12/14/23 19:04	12/14/23 19:04	RJB
Surr: 4-Bromofluorobenzene (Surr)	07	SW8260D	107 %		75-120		12/14/23 19:04	12/14/23 19:04	RJB
Surr: Dibromofluoromethane (Surr)	07	SW8260D	98.3 %		70-130		12/14/23 19:04	12/14/23 19:04	RJB
Surr: Toluene-d8 (Surr)	07	SW8260D	102 %		70-130		12/14/23 19:04	12/14/23 19:04	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills

Laboratory Sample ID: 23L0783-07

Grab Date/Time: 12/12/2023 16:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1,2,4-Trichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1,2-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1,2-Diphenylhydrazine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1,3-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1,3-Dinitrobenzene	07	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 00:52	BMS
1,4-Dichlorobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
1-Naphthylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,3,4,6-Tetrachlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4,5-Trichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4,6-Trichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4-Dichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4-Dimethylphenol	07	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4-Dinitrophenol	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,4-Dinitrotoluene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,6-Dichlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,6-Dinitrotoluene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Chloronaphthalene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Chlorophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Methylnaphthalene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Naphthylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2-Nitrophenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
3,3'-Dichlorobenzidine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
3-Methylcholanthrene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
3-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills	Laboratory Sample ID: 23L0783-07
Grab Date/Time: 12/12/2023 16:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Aminobiphenyl	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Bromophenyl phenyl ether	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Chloroaniline	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Chlorophenyl phenyl ether	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Nitroaniline	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
4-Nitrophenol	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
7,12-Dimethylbenz (a) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Acenaphthene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Acenaphthylene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Acetophenone	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Aniline	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzidine	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzo (a) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzo (a) pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzo (b) fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzo (g,h,i) perylene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzo (k) fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzoic acid	07	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Benzyl alcohol	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
bis (2-Chloroethoxy) methane	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
bis (2-Chloroethyl) ether	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
2,2'-Oxybis (1-chloropropane)	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
bis (2-Ethylhexyl) phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. S. Mills Laboratory Sample ID: 23L0783-07
 Grab Date/Time: 12/12/2023 16:30
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Chrysene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Dibenz (a,h) anthracene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Dibenz (a,j) acridine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Dibenzofuran	07	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:52	BMS
Diethyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Dimethyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Di-n-butyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Di-n-octyl phthalate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Diphenylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Ethyl methanesulfonate	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Fluoranthene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Fluorene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Hexachlorobenzene	07	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/15/23 00:52	BMS
Hexachlorobutadiene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Hexachlorocyclopentadiene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Hexachloroethane	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Indeno (1,2,3-cd) pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Isophorone	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
m+p-Cresols	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Methyl methanesulfonate	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Naphthalene	07	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 00:52	BMS
Nitrobenzene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
n-Nitrosodimethylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
n-Nitrosodi-n-butylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
n-Nitrosodi-n-propylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS



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Laboratory Order ID: 23L0783

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 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
n-Nitrosopiperidine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
o+m+p-Cresols	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
o-Cresol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
p-(Dimethylamino) azobenzene	07	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 00:52	BMS
p-Chloro-m-cresol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Pentachloronitrobenzene (quintozene)	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Pentachlorophenol	07	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Phenacetin	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Phenanthrene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Phenol	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Pronamide	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Pyrene	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Pyridine	07	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 00:52	BMS
Surr: 2,4,6-Tribromophenol (Surr)	07	SW8270E	62.0 %		5-136		12/14/23 09:00	12/15/23 00:52	BMS
Surr: 2-Fluorobiphenyl (Surr)	07	SW8270E	62.1 %		9-117		12/14/23 09:00	12/15/23 00:52	BMS
Surr: 2-Fluorophenol (Surr)	07	SW8270E	37.8 %		5-60		12/14/23 09:00	12/15/23 00:52	BMS
Surr: Nitrobenzene-d5 (Surr)	07	SW8270E	70.8 %		5-151		12/14/23 09:00	12/15/23 00:52	BMS
Surr: Phenol-d5 (Surr)	07	SW8270E	25.9 %		5-60		12/14/23 09:00	12/15/23 00:52	BMS
Surr: p-Terphenyl-d14 (Surr)	07	SW8270E	61.5 %		5-141		12/14/23 09:00	12/15/23 00:52	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister Laboratory Sample ID: 23L0783-09
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	09	SW8260D	<0.40 ug/L		0.40	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1,1-Trichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1,2,2-Tetrachloroethane	09	SW8260D	<0.40 ug/L		0.40	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1,2-Trichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1-Dichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,1-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2,3-Trichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2,3-Trichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2,4-Trichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2,4-Trimethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2-Dibromo-3-chloropropane (DBCP)	09	SW8260D	<1.00 ug/L	C	1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2-Dibromoethane (EDB)	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2-Dichlorobenzene	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2-Dichloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,2-Dichloropropane	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
1,3,5-Trimethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,3-Dichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,3-Dichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
1,4-Dichlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
2,2-Dichloropropane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
2-Butanone (MEK)	09	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:27	12/14/23 19:27	RJB
2-Chlorotoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
2-Hexanone (MBK)	09	SW8260D	<5.00 ug/L		5.00	1	12/14/23 19:27	12/14/23 19:27	RJB
4-Chlorotoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister Laboratory Sample ID: 23L0783-09
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
4-Methyl-2-pentanone (MIBK)	09	SW8260D	<5.00 ug/L		5.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Acetone	09	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:27	12/14/23 19:27	RJB
Benzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Bromobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Bromochloromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Bromodichloromethane	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
Bromoform	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Bromomethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Carbon disulfide	09	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:27	12/14/23 19:27	RJB
Carbon tetrachloride	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Chlorobenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Chloroethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Chloroform	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
Chloromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
cis-1,2-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
cis-1,3-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Dibromochloromethane	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
Dibromomethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Dichlorodifluoromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Di-isopropyl ether (DIPE)	09	SW8260D	<5.00 ug/L		5.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Ethylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Hexachlorobutadiene	09	SW8260D	<0.80 ug/L		0.80	1	12/14/23 19:27	12/14/23 19:27	RJB
Iodomethane	09	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:27	12/14/23 19:27	RJB
Isopropylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
m+p-Xylenes	09	SW8260D	<2.00 ug/L		2.00	1	12/14/23 19:27	12/14/23 19:27	RJB



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister Laboratory Sample ID: 23L0783-09
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	09	SW8260D	<4.00 ug/L		4.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Methyl-t-butyl ether (MTBE)	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Naphthalene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
n-Butylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
n-Propylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
o-Xylene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
sec-Butylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Styrene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
tert-Butylbenzene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Tetrachloroethylene (PCE)	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Toluene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
trans-1,2-Dichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
trans-1,3-Dichloropropene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Trichloroethylene	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Trichlorofluoromethane	09	SW8260D	<1.00 ug/L		1.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Vinyl acetate	09	SW8260D	<10.0 ug/L		10.0	1	12/14/23 19:27	12/14/23 19:27	RJB
Vinyl chloride	09	SW8260D	<0.50 ug/L		0.50	1	12/14/23 19:27	12/14/23 19:27	RJB
Xylenes, Total	09	SW8260D	<3.00 ug/L		3.00	1	12/14/23 19:27	12/14/23 19:27	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	09	SW8260D	96.5 %		70-120		12/14/23 19:27	12/14/23 19:27	RJB
Surr: 4-Bromofluorobenzene (Surr)	09	SW8260D	107 %		75-120		12/14/23 19:27	12/14/23 19:27	RJB
Surr: Dibromofluoromethane (Surr)	09	SW8260D	98.5 %		70-130		12/14/23 19:27	12/14/23 19:27	RJB
Surr: Toluene-d8 (Surr)	09	SW8260D	101 %		70-130		12/14/23 19:27	12/14/23 19:27	RJB

Semivolatile Organic Compounds by GCMS



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Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister Laboratory Sample ID: 23L0783-09
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1,2,4-Trichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1,2-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1,2-Diphenylhydrazine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1,3-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1,3-Dinitrobenzene	09	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 01:21	BMS
1,4-Dichlorobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
1-Naphthylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,3,4,6-Tetrachlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4,5-Trichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4,6-Trichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4-Dichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4-Dimethylphenol	09	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4-Dinitrophenol	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,4-Dinitrotoluene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,6-Dichlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,6-Dinitrotoluene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Chloronaphthalene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Chlorophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Methylnaphthalene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Naphthylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2-Nitrophenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
3,3'-Dichlorobenzidine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
3-Methylcholanthrene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
3-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister	Laboratory Sample ID: 23L0783-09
Grab Date/Time: 12/12/2023 16:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Aminobiphenyl	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Bromophenyl phenyl ether	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Chloroaniline	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Chlorophenyl phenyl ether	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Nitroaniline	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
4-Nitrophenol	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
7,12-Dimethylbenz (a) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Acenaphthene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Acenaphthylene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Acetophenone	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Aniline	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzidine	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzo (a) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzo (a) pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzo (b) fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzo (g,h,i) perylene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzo (k) fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzoic acid	09	SW8270E	<50.0 ug/L		50.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Benzyl alcohol	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
bis (2-Chloroethoxy) methane	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
bis (2-Chloroethyl) ether	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
2,2'-Oxybis (1-chloropropane)	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
bis (2-Ethylhexyl) phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister Laboratory Sample ID: 23L0783-09
 Grab Date/Time: 12/12/2023 16:30
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Chrysene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Dibenz (a,h) anthracene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Dibenz (a,j) acridine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Dibenzofuran	09	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 01:21	BMS
Diethyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Dimethyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Di-n-butyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Di-n-octyl phthalate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Diphenylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Ethyl methanesulfonate	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Fluoranthene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Fluorene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Hexachlorobenzene	09	SW8270E	<1.00 ug/L		1.00	1	12/14/23 09:00	12/15/23 01:21	BMS
Hexachlorobutadiene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Hexachlorocyclopentadiene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Hexachloroethane	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Indeno (1,2,3-cd) pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Isophorone	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
m+p-Cresols	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Methyl methanesulfonate	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Naphthalene	09	SW8270E	<5.00 ug/L		5.00	1	12/14/23 09:00	12/15/23 01:21	BMS
Nitrobenzene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
n-Nitrosodimethylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
n-Nitrosodi-n-butylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
n-Nitrosodi-n-propylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0783

Analytical Results

Sample I.D. M. Armbrister	Laboratory Sample ID: 23L0783-09
Grab Date/Time: 12/12/2023 16:30	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
n-Nitrosopiperidine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
o+m+p-Cresols	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
o-Cresol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
p-(Dimethylamino) azobenzene	09	SW8270E	<2.50 ug/L		2.50	1	12/14/23 09:00	12/15/23 01:21	BMS
p-Chloro-m-cresol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Pentachloronitrobenzene (quintozene)	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Pentachlorophenol	09	SW8270E	<20.0 ug/L		20.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Phenacetin	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Phenanthrene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Phenol	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Pronamide	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Pyrene	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Pyridine	09	SW8270E	<10.0 ug/L		10.0	1	12/14/23 09:00	12/15/23 01:21	BMS
Surr: 2,4,6-Tribromophenol (Surr)	09	SW8270E	55.3 %		5-136		12/14/23 09:00	12/15/23 01:21	BMS
Surr: 2-Fluorobiphenyl (Surr)	09	SW8270E	56.3 %		9-117		12/14/23 09:00	12/15/23 01:21	BMS
Surr: 2-Fluorophenol (Surr)	09	SW8270E	33.8 %		5-60		12/14/23 09:00	12/15/23 01:21	BMS
Surr: Nitrobenzene-d5 (Surr)	09	SW8270E	64.2 %		5-151		12/14/23 09:00	12/15/23 01:21	BMS
Surr: Phenol-d5 (Surr)	09	SW8270E	24.1 %		5-60		12/14/23 09:00	12/15/23 01:21	BMS
Surr: p-Terphenyl-d14 (Surr)	09	SW8270E	52.2 %		5-141		12/14/23 09:00	12/15/23 01:21	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 18, 2023 14:49
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23L0783-01	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-02	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-03	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-04	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-05	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-06	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-07	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
23L0783-09	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23L0783-01	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-02	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-03	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-04	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-05	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-06	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-07	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
23L0783-09	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 18, 2023 14:49
Project Number: 4260155
Purchase Order: 4260155-001

Submitted To: Lorton VA, 22079
Shanna Hryvniak
Client Site I.D.: Coopers
Cove

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL0580-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
BGL0580-BS1	1000 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
BGL0580-MS1	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271
BGL0580-MSD1	1070 mL / 1.00 mL	SW8270E	BGL0580	SGL0589	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL0600-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
BGL0600-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
BGL0600-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176
BGL0600-MSD1	5.00 mL / 5.00 mL	SW8260D	BGL0600	SGL0577	AL30176



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Blank (BGL0600-BLK1)

Prepared & Analyzed: 12/14/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Blank (BGL0600-BLK1)

Prepared & Analyzed: 12/14/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Blank (BGL0600-BLK1)

Prepared & Analyzed: 12/14/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	48.6		ug/L	50.0		97.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	53.2		ug/L	50.0		106	75-120			
Surr: Dibromofluoromethane (Surr)	48.3		ug/L	50.0		96.6	70-130			
Surr: Toluene-d8 (Surr)	50.9		ug/L	50.0		102	70-130			

LCS (BGL0600-BS1)

Prepared & Analyzed: 12/14/2023

1,1,1,2-Tetrachloroethane	52.1 ug/L	0.4	ug/L	50.0	ug/L	104	80-130			
1,1,1-Trichloroethane	50.6 ug/L	1	ug/L	50.0	ug/L	101	65-130			
1,1,2,2-Tetrachloroethane	52.2 ug/L	0.4	ug/L	50.0	ug/L	104	65-130			
1,1,2-Trichloroethane	54.7 ug/L	1	ug/L	50.0	ug/L	109	75-125			
1,1-Dichloroethane	52.0 ug/L	1	ug/L	50.0	ug/L	104	70-135			
1,1-Dichloroethylene	51.8 ug/L	1	ug/L	50.0	ug/L	104	70-130			
1,1-Dichloropropene	51.9 ug/L	1	ug/L	50.0	ug/L	104	75-135			
1,2,3-Trichlorobenzene	55.7 ug/L	1	ug/L	50.0	ug/L	111	55-140			
1,2,3-Trichloropropane	48.2 ug/L	1	ug/L	50.0	ug/L	96.4	75-125			
1,2,4-Trichlorobenzene	51.0 ug/L	1	ug/L	50.0	ug/L	102	65-135			
1,2,4-Trimethylbenzene	54.3 ug/L	1	ug/L	50.0	ug/L	109	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	42.7 ug/L	1	ug/L	50.0	ug/L	85.5	50-130			
1,2-Dibromoethane (EDB)	51.1 ug/L	1	ug/L	50.0	ug/L	102	80-120			
1,2-Dichlorobenzene	50.0 ug/L	0.5	ug/L	50.0	ug/L	100	70-120			
1,2-Dichloroethane	49.3 ug/L	1	ug/L	50.0	ug/L	98.7	70-130			
1,2-Dichloropropane	53.2 ug/L	0.5	ug/L	50.0	ug/L	106	75-125			
1,3,5-Trimethylbenzene	53.1 ug/L	1	ug/L	50.0	ug/L	106	75-125			
1,3-Dichlorobenzene	52.2 ug/L	1	ug/L	50.0	ug/L	104	75-125			
1,3-Dichloropropane	52.9 ug/L	1	ug/L	50.0	ug/L	106	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

LCS (BGL0600-BS1)

Prepared & Analyzed: 12/14/2023

1,4-Dichlorobenzene	50.4 ug/L	1	ug/L	50.0	ug/L	101	75-125			
2,2-Dichloropropane	50.7 ug/L	1	ug/L	50.0	ug/L	101	70-135			
2-Butanone (MEK)	46.7 ug/L	10	ug/L	50.0	ug/L	93.4	30-150			
2-Chlorotoluene	52.7 ug/L	1	ug/L	50.0	ug/L	105	75-125			
2-Hexanone (MBK)	45.1 ug/L	5	ug/L	50.0	ug/L	90.2	55-130			
4-Chlorotoluene	53.8 ug/L	1	ug/L	50.0	ug/L	108	75-130			
4-Isopropyltoluene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-130			
4-Methyl-2-pentanone (MIBK)	50.6 ug/L	5	ug/L	50.0	ug/L	101	60-135			
Acetone	37.1 ug/L	10	ug/L	50.0	ug/L	74.2	40-140			
Benzene	53.8 ug/L	1	ug/L	50.0	ug/L	108	80-120			
Bromobenzene	53.2 ug/L	1	ug/L	50.0	ug/L	106	75-125			
Bromochloromethane	50.7 ug/L	1	ug/L	50.0	ug/L	101	65-130			
Bromodichloromethane	53.1 ug/L	0.5	ug/L	50.0	ug/L	106	75-120			
Bromoform	56.9 ug/L	1	ug/L	50.0	ug/L	114	70-130			
Bromomethane	38.1 ug/L	1	ug/L	50.0	ug/L	76.1	30-145			
Carbon disulfide	41.3 ug/L	10	ug/L	50.0	ug/L	82.5	35-160			
Carbon tetrachloride	50.8 ug/L	1	ug/L	50.0	ug/L	102	65-140			
Chlorobenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	80-120			
Chloroethane	47.2 ug/L	1	ug/L	50.0	ug/L	94.4	60-135			
Chloroform	49.8 ug/L	0.5	ug/L	50.0	ug/L	99.6	65-135			
Chloromethane	47.8 ug/L	1	ug/L	50.0	ug/L	95.6	40-125			
cis-1,2-Dichloroethylene	53.1 ug/L	1	ug/L	50.0	ug/L	106	70-125			
cis-1,3-Dichloropropene	53.4 ug/L	1	ug/L	50.0	ug/L	107	70-130			
Dibromochloromethane	55.6 ug/L	0.5	ug/L	50.0	ug/L	111	60-135			
Dibromomethane	51.1 ug/L	1	ug/L	50.0	ug/L	102	75-125			
Dichlorodifluoromethane	64.7 ug/L	1	ug/L	50.0	ug/L	129	30-155			
Ethylbenzene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-125			
Hexachlorobutadiene	44.9 ug/L	0.8	ug/L	50.0	ug/L	89.8	50-140			
Isopropylbenzene	50.2 ug/L	1	ug/L	50.0	ug/L	100	75-125			
m+p-Xylenes	105 ug/L	2	ug/L	100	ug/L	105	75-130			
Methylene chloride	52.9 ug/L	4	ug/L	50.0	ug/L	106	55-140			

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

LCS (BGL0600-BS1)

Prepared & Analyzed: 12/14/2023

Methyl-t-butyl ether (MTBE)	51.8 ug/L	1	ug/L	50.0	ug/L	104	65-125			
Naphthalene	53.0 ug/L	1	ug/L	50.0	ug/L	106	55-140			
n-Butylbenzene	51.3 ug/L	1	ug/L	50.0	ug/L	103	70-135			
n-Propylbenzene	53.5 ug/L	1	ug/L	50.0	ug/L	107	70-130			
o-Xylene	53.1 ug/L	1	ug/L	50.0	ug/L	106	80-120			
sec-Butylbenzene	54.8 ug/L	1	ug/L	50.0	ug/L	110	70-125			
Styrene	54.0 ug/L	1	ug/L	50.0	ug/L	108	65-135			
tert-Butylbenzene	52.9 ug/L	1	ug/L	50.0	ug/L	106	70-130			
Tetrachloroethylene (PCE)	42.8 ug/L	1	ug/L	50.0	ug/L	85.5	45-150			
Toluene	53.7 ug/L	1	ug/L	50.0	ug/L	107	75-120			
trans-1,2-Dichloroethylene	51.4 ug/L	1	ug/L	50.0	ug/L	103	60-140			
trans-1,3-Dichloropropene	57.0 ug/L	1	ug/L	50.0	ug/L	114	55-140			
Trichloroethylene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-125			
Trichlorofluoromethane	50.4 ug/L	1	ug/L	50.0	ug/L	101	60-145			
Vinyl chloride	47.8 ug/L	0.5	ug/L	50.0	ug/L	95.6	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	47.5		ug/L	50.0	ug/L	95.1	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.7		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	48.4		ug/L	50.0	ug/L	96.9	70-130			
Surr: Toluene-d8 (Surr)	50.4		ug/L	50.0	ug/L	101	70-130			

Matrix Spike (BGL0600-MS1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

1,1,1,2-Tetrachloroethane	51.0 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	80-130			
1,1,1-Trichloroethane	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	65-130			
1,1,2,2-Tetrachloroethane	52.9 ug/L	0.4	ug/L	50.0	<0.4 ug/L	106	65-130			
1,1,2-Trichloroethane	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	75-125			
1,1-Dichloroethane	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	70-135			
1,1-Dichloroethylene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	50-145			
1,1-Dichloropropene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	75-135			
1,2,3-Trichlorobenzene	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	55-140			
1,2,3-Trichloropropane	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.5	75-125			
1,2,4-Trichlorobenzene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	65-135			
1,2,4-Trimethylbenzene	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Matrix Spike (BGL0600-MS1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

1,2-Dibromo-3-chloropropane (DBCP)	44.2 ug/L	1	ug/L	50.0	<1 ug/L	88.4	50-130			
1,2-Dibromoethane (EDB)	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	80-120			
1,2-Dichlorobenzene	50.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	100	70-120			
1,2-Dichloroethane	49.1 ug/L	1	ug/L	50.0	<1 ug/L	98.2	70-130			
1,2-Dichloropropane	52.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-125			
1,3,5-Trimethylbenzene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	75-124			
1,3-Dichlorobenzene	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
1,3-Dichloropropane	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
1,4-Dichlorobenzene	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.9	75-125			
2,2-Dichloropropane	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.6	70-135			
2-Butanone (MEK)	50.3 ug/L	10	ug/L	50.0	<10 ug/L	101	30-150			
2-Chlorotoluene	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125			
2-Hexanone (MBK)	48.6 ug/L	5	ug/L	50.0	<5 ug/L	97.2	55-130			
4-Chlorotoluene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	75-130			
4-Isopropyltoluene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	75-130			
4-Methyl-2-pentanone (MIBK)	54.9 ug/L	5	ug/L	50.0	<5 ug/L	110	60-135			
Acetone	40.5 ug/L	10	ug/L	50.0	37.1 ug/L	6.84	40-140			M
Benzene	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	80-120			
Bromobenzene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
Bromochloromethane	50.0 ug/L	1	ug/L	50.0	<1 ug/L	99.9	65-130			
Bromodichloromethane	52.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-136			
Bromoform	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130			
Bromomethane	38.2 ug/L	1	ug/L	50.0	<1 ug/L	76.4	30-145			
Carbon disulfide	43.9 ug/L	10	ug/L	50.0	<10 ug/L	86.8	35-160			
Carbon tetrachloride	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	65-140			
Chlorobenzene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
Chloroethane	46.0 ug/L	1	ug/L	50.0	<1 ug/L	92.0	60-135			
Chloroform	49.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	98.1	65-135			
Chloromethane	47.9 ug/L	1	ug/L	50.0	<1 ug/L	95.8	40-125			
cis-1,2-Dichloroethylene	51.8 ug/L	1	ug/L	50.0	<1 ug/L	104	70-125			
cis-1,3-Dichloropropene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	47-136			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Matrix Spike (BGL0600-MS1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

Dibromochloromethane	54.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	110	60-135			
Dibromomethane	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
Dichlorodifluoromethane	62.2 ug/L	1	ug/L	50.0	<1 ug/L	124	30-155			
Ethylbenzene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
Hexachlorobutadiene	44.8 ug/L	0.8	ug/L	50.0	<0.8 ug/L	89.7	50-140			
Isopropylbenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125			
m+p-Xylenes	103 ug/L	2	ug/L	100	<2 ug/L	103	75-130			
Methylene chloride	52.1 ug/L	4	ug/L	50.0	<4 ug/L	104	55-140			
Methyl-t-butyl ether (MTBE)	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	65-125			
Naphthalene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	55-140			
n-Butylbenzene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	70-135			
n-Propylbenzene	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	70-130			
o-Xylene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120			
sec-Butylbenzene	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	70-125			
Styrene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	65-135			
tert-Butylbenzene	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
Tetrachloroethylene (PCE)	42.0 ug/L	1	ug/L	50.0	<1 ug/L	84.1	51-231			
Toluene	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	75-120			
trans-1,2-Dichloroethylene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	60-140			
trans-1,3-Dichloropropene	56.9 ug/L	1	ug/L	50.0	<1 ug/L	114	55-140			
Trichloroethylene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-125			
Trichlorofluoromethane	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	60-145			
Vinyl chloride	44.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	89.3	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	48.4		ug/L	50.0	ug/L	96.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.6		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	49.0		ug/L	50.0	ug/L	98.0	70-130			
Surr: Toluene-d8 (Surr)	50.6		ug/L	50.0	ug/L	101	70-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Issued: December 18, 2023 14:49
Project Number: 4260155
Purchase Order: 4260155-001

Lorton VA, 22079
Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers
Cove

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Matrix Spike Dup (BGL0600-MSD1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

1,1,1,2-Tetrachloroethane	50.6 ug/L	0.4	ug/L	50.0	<0.4 ug/L	101	80-130	0.886	30	
1,1,1-Trichloroethane	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	65-130	1.47	30	
1,1,2,2-Tetrachloroethane	52.9 ug/L	0.4	ug/L	50.0	<0.4 ug/L	106	65-130	0.0756	30	
1,1,2-Trichloroethane	54.5 ug/L	1	ug/L	50.0	<1 ug/L	109	75-125	0.494	30	
1,1-Dichloroethane	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	70-135	1.73	30	
1,1-Dichloroethylene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.3	50-145	2.01	30	
1,1-Dichloropropene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	75-135	1.14	30	
1,2,3-Trichlorobenzene	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	55-140	0.242	30	
1,2,3-Trichloropropane	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125	0.262	30	
1,2,4-Trichlorobenzene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.5	65-135	1.08	30	
1,2,4-Trimethylbenzene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	75-130	2.18	30	
1,2-Dibromo-3-chloropropane (DBCP)	43.9 ug/L	1	ug/L	50.0	<1 ug/L	87.8	50-130	0.590	30	
1,2-Dibromoethane (EDB)	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120	1.43	30	
1,2-Dichlorobenzene	48.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	97.7	70-120	2.53	30	
1,2-Dichloroethane	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.7	70-130	1.54	30	
1,2-Dichloropropane	52.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-125	0.480	30	
1,3,5-Trimethylbenzene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124	2.06	30	
1,3-Dichlorobenzene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125	0.275	30	
1,3-Dichloropropane	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125	0.266	30	
1,4-Dichlorobenzene	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	75-125	0.507	30	
2,2-Dichloropropane	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.3	70-135	2.40	30	
2-Butanone (MEK)	49.1 ug/L	10	ug/L	50.0	<10 ug/L	98.2	30-150	2.45	30	
2-Chlorotoluene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125	1.95	30	
2-Hexanone (MBK)	49.3 ug/L	5	ug/L	50.0	<5 ug/L	98.6	55-130	1.43	30	
4-Chlorotoluene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	75-130	2.13	30	
4-Isopropyltoluene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130	2.26	30	
4-Methyl-2-pentanone (MIBK)	55.7 ug/L	5	ug/L	50.0	<5 ug/L	111	60-135	1.41	30	
Acetone	39.7 ug/L	10	ug/L	50.0	37.1 ug/L	5.12	40-140	2.15	30	M
Benzene	52.5 ug/L	1	ug/L	50.0	<1 ug/L	105	80-120	0.0572	30	
Bromobenzene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125	0.113	30	
Bromochloromethane	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.7	65-130	1.21	30	



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Matrix Spike Dup (BGL0600-MSD1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Bromodichloromethane	52.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	75-136	1.37	30	
Bromoform	56.5 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130	0.159	30	
Bromomethane	36.7 ug/L	1	ug/L	50.0	<1 ug/L	73.4	30-145	3.90	30	
Carbon disulfide	43.6 ug/L	10	ug/L	50.0	<10 ug/L	86.1	35-160	0.869	30	
Carbon tetrachloride	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	65-140	1.14	30	
Chlorobenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120	0.994	30	
Chloroethane	44.4 ug/L	1	ug/L	50.0	<1 ug/L	88.8	60-135	3.58	30	
Chloroform	48.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	96.4	65-135	1.73	30	
Chloromethane	44.3 ug/L	1	ug/L	50.0	<1 ug/L	88.5	40-125	7.90	30	
cis-1,2-Dichloroethylene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	70-125	0.290	30	
cis-1,3-Dichloropropene	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	47-136	0.439	30	
Dibromochloromethane	54.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	110	60-135	0.0912	30	
Dibromomethane	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125	0.944	30	
Dichlorodifluoromethane	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	30-155	5.28	30	
Ethylbenzene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125	0.825	30	
Hexachlorobutadiene	44.9 ug/L	0.8	ug/L	50.0	<0.8 ug/L	89.9	50-140	0.200	30	
Isopropylbenzene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.5	75-125	0.648	30	
m+p-Xylenes	102 ug/L	2	ug/L	100	<2 ug/L	102	75-130	0.895	30	
Methylene chloride	50.8 ug/L	4	ug/L	50.0	<4 ug/L	102	55-140	2.49	30	
Methyl-t-butyl ether (MTBE)	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	65-125	1.70	30	
Naphthalene	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	55-140	0.588	30	
n-Butylbenzene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	70-135	1.01	30	
n-Propylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130	2.12	30	
o-Xylene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	80-120	1.40	30	
sec-Butylbenzene	53.5 ug/L	1	ug/L	50.0	<1 ug/L	107	70-125	1.50	30	
Styrene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	65-135	0.605	30	
tert-Butylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130	0.602	30	
Tetrachloroethylene (PCE)	41.1 ug/L	1	ug/L	50.0	<1 ug/L	82.2	51-231	2.33	30	
Toluene	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	75-120	0.0377	30	
trans-1,2-Dichloroethylene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	60-140	1.94	30	
trans-1,3-Dichloropropene	56.8 ug/L	1	ug/L	50.0	<1 ug/L	114	55-140	0.141	30	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0600 - SW5030B-MS

Matrix Spike Dup (BGL0600-MSD1)

Source: 23L0740-01

Prepared & Analyzed: 12/14/2023

Trichloroethylene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	70-125	0.195	30	
Trichlorofluoromethane	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	60-145	2.45	30	
Vinyl chloride	42.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	84.5	50-145	5.62	30	

Surr: 1,2-Dichloroethane-d4 (Surr)	47.8		ug/L	50.0	ug/L	95.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.7		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	48.3		ug/L	50.0	ug/L	96.7	70-130			
Surr: Toluene-d8 (Surr)	50.8		ug/L	50.0	ug/L	102	70-130			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Blank (BGL0580-BLK1)

Prepared & Analyzed: 12/14/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Blank (BGL0580-BLK1)

Prepared & Analyzed: 12/14/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Blank (BGL0580-BLK1)

Prepared & Analyzed: 12/14/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
<hr/>										
Surr: 2,4,6-Tribromophenol (Surr)	50.8		ug/L	100		50.8	5-136			
Surr: 2-Fluorobiphenyl (Surr)	27.5		ug/L	50.0		55.0	9-117			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Blank (BGL0580-BLK1)

Prepared & Analyzed: 12/14/2023

Surr: 2-Fluorophenol (Surr)	34.0		ug/L	100		34.0	5-60			
Surr: Nitrobenzene-d5 (Surr)	30.1		ug/L	50.0		60.2	5-151			
Surr: Phenol-d5 (Surr)	25.8		ug/L	100		25.8	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.6		ug/L	50.0		61.3	5-141			

LCS (BGL0580-BS1)

Prepared & Analyzed: 12/14/2023

1,2,4-Trichlorobenzene	28.6 ug/L	10.0	ug/L	50.0	ug/L	57.3	57-130			
1,2-Dichlorobenzene	30.5 ug/L	10.0	ug/L	50.0	ug/L	61.0	22-115			
1,3-Dichlorobenzene	28.8 ug/L	10.0	ug/L	50.0	ug/L	57.6	22-112			
1,4-Dichlorobenzene	30.0 ug/L	10.0	ug/L	50.0	ug/L	60.1	13-112			
2,4,6-Trichlorophenol	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.7	52-129			
2,4-Dichlorophenol	34.5 ug/L	10.0	ug/L	50.0	ug/L	69.0	53-122			
2,4-Dimethylphenol	34.3 ug/L	5.00	ug/L	50.0	ug/L	68.6	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	66.0	48-127			
2,4-Dinitrotoluene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.5	10-173			
2,6-Dinitrotoluene	31.9 ug/L	10.0	ug/L	50.0	ug/L	63.8	68-137			L
2-Chloronaphthalene	32.3 ug/L	10.0	ug/L	50.0	ug/L	64.5	65-120			L
2-Chlorophenol	31.9 ug/L	10.0	ug/L	50.0	ug/L	63.9	36-120			
2-Nitrophenol	33.8 ug/L	10.0	ug/L	50.0	ug/L	67.6	45-167			
3,3'-Dichlorobenzidine	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.7	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	64.2	53-130			
4-Bromophenyl phenyl ether	29.4 ug/L	10.0	ug/L	50.0	ug/L	58.8	65-120			L
4-Chlorophenyl phenyl ether	28.6 ug/L	10.0	ug/L	50.0	ug/L	57.2	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	24.3	13-129			
Acenaphthene	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.4	60-132			
Acenaphthylene	35.5 ug/L	10.0	ug/L	50.0	ug/L	71.0	54-126			
Acetophenone	31.9 ug/L	20.0	ug/L	50.0	ug/L	63.8	0-200			
Anthracene	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	43-120			
Benzo (a) anthracene	37.4 ug/L	10.0	ug/L	50.0	ug/L	74.7	42-133			
Benzo (a) pyrene	40.6 ug/L	10.0	ug/L	50.0	ug/L	81.2	32-148			
Benzo (b) fluoranthene	35.8 ug/L	10.0	ug/L	50.0	ug/L	71.7	42-140			
Benzo (g,h,i) perylene	43.6 ug/L	10.0	ug/L	50.0	ug/L	87.2	10-195			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

LCS (BGL0580-BS1)

Prepared & Analyzed: 12/14/2023

Benzo (k) fluoranthene	38.1 ug/L	10.0	ug/L	50.0	ug/L	76.2	25-146			
bis (2-Chloroethoxy) methane	32.4 ug/L	10.0	ug/L	50.0	ug/L	64.9	49-165			
bis (2-Chloroethyl) ether	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.3	43-126			
2,2'-Oxybis (1-chloropropane)	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.2	63-139			
bis (2-Ethylhexyl) phthalate	31.5 ug/L	10.0	ug/L	50.0	ug/L	63.0	29-137			
Butyl benzyl phthalate	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.7	10-140			
Chrysene	40.4 ug/L	10.0	ug/L	50.0	ug/L	80.7	44-140			
Dibenz (a,h) anthracene	43.2 ug/L	10.0	ug/L	50.0	ug/L	86.5	10-200			
Diethyl phthalate	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.2	10-120			
Dimethyl phthalate	30.6 ug/L	10.0	ug/L	50.0	ug/L	61.1	10-120			
Di-n-butyl phthalate	33.8 ug/L	10.0	ug/L	50.0	ug/L	67.5	10-120			
Di-n-octyl phthalate	34.1 ug/L	10.0	ug/L	50.0	ug/L	68.1	19-132			
Fluoranthene	36.4 ug/L	10.0	ug/L	50.0	ug/L	72.7	43-121			
Fluorene	33.9 ug/L	10.0	ug/L	50.0	ug/L	67.9	70-120			L
Hexachlorobenzene	24.4 ug/L	1.00	ug/L	50.0	ug/L	48.7	10-142			
Hexachlorobutadiene	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.3	38-120			
Hexachlorocyclopentadiene	22.6 ug/L	10.0	ug/L	50.0	ug/L	45.1	10-76			
Hexachloroethane	32.5 ug/L	10.0	ug/L	50.0	ug/L	64.9	55-120			
Indeno (1,2,3-cd) pyrene	41.1 ug/L	10.0	ug/L	50.0	ug/L	82.2	10-151			
Isophorone	23.1 ug/L	10.0	ug/L	50.0	ug/L	46.3	47-180			L
Naphthalene	34.0 ug/L	5.00	ug/L	50.0	ug/L	67.9	36-120			
Nitrobenzene	35.0 ug/L	10.0	ug/L	50.0	ug/L	69.9	54-158			
n-Nitrosodimethylamine	24.2 ug/L	10.0	ug/L	50.0	ug/L	48.5	10-85			
n-Nitrosodi-n-propylamine	31.0 ug/L	10.0	ug/L	50.0	ug/L	62.0	14-198			
n-Nitrosodiphenylamine	27.7 ug/L	10.0	ug/L	50.0	ug/L	55.4	12-97			
p-Chloro-m-cresol	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.2	10-142			
Pentachlorophenol	24.8 ug/L	20.0	ug/L	50.0	ug/L	49.6	38-152			
Phenanthrene	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.4	65-120			
Phenol	14.5 ug/L	10.0	ug/L	50.5	ug/L	28.7	17-120			
Pyrene	36.0 ug/L	10.0	ug/L	50.0	ug/L	72.0	70-120			
Pyridine	32.4 ug/L	10.0	ug/L	50.0	ug/L	64.8	10-103			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: December 18, 2023 14:49
 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

LCS (BGL0580-BS1)

Prepared & Analyzed: 12/14/2023

Surr: 2,4,6-Tribromophenol (Surr)	66.0		ug/L	100	ug/L	66.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	30.8		ug/L	50.0	ug/L	61.7	9-117			
Surr: 2-Fluorophenol (Surr)	41.5		ug/L	100	ug/L	41.5	5-60			
Surr: Nitrobenzene-d5 (Surr)	34.1		ug/L	50.0	ug/L	68.1	5-151			
Surr: Phenol-d5 (Surr)	30.2		ug/L	100	ug/L	30.2	5-60			
Surr: p-Terphenyl-d14 (Surr)	35.2		ug/L	50.0	ug/L	70.4	5-141			

Matrix Spike (BGL0580-MS1)

Source: 23L0718-03

Prepared & Analyzed: 12/14/2023

1,2,4-Trichlorobenzene	22.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	47.6	44-142			
1,2-Dichlorobenzene	23.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	49.6	22-115			
1,3-Dichlorobenzene	21.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	47.0	22-112			
1,4-Dichlorobenzene	23.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	50.4	13-112			
2,4,6-Trichlorophenol	28.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	61.0	37-144			
2,4-Dichlorophenol	26.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	56.9	39-135			
2,4-Dimethylphenol	27.2 ug/L	5.00	ug/L	46.7	<5.00 ug/L	58.1	32-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	63.0	39-139			
2,4-Dinitrotoluene	29.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	63.4	10-191			
2,6-Dinitrotoluene	26.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	55.8	50-158			
2-Chloronaphthalene	25.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	54.8	60-120			M
2-Chlorophenol	24.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	51.9	23-134			
2-Nitrophenol	26.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	56.1	29-182			
3,3'-Dichlorobenzidine	16.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	34.2	10-262			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	56.3	10-181			
4-Bromophenyl phenyl ether	24.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	51.3	53-127			M
4-Chlorophenyl phenyl ether	23.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	49.4	25-158			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	22.4	10-132			
Acenaphthene	26.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	57.3	47-145			
Acenaphthylene	28.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	61.6	33-145			
Acetophenone	24.8 ug/L	20.0	ug/L	46.7	<20.0 ug/L	53.0	0-200			
Anthracene	26.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	56.9	27-133			
Benzo (a) anthracene	28.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	61.5	33-143			
Benzo (a) pyrene	32.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	68.7	17-163			



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Matrix Spike (BGL0580-MS1)	Source: 23L0718-03			Prepared & Analyzed: 12/14/2023						
Benzo (b) fluoranthene	30.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	64.4	24-159			
Benzo (g,h,i) perylene	32.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	69.5	10-219			
Benzo (k) fluoranthene	30.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	65.3	11-162			
bis (2-Chloroethoxy) methane	25.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	55.4	33-184			
bis (2-Chloroethyl) ether	23.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	49.7	12-158			
2,2'-Oxybis (1-chloropropane)	25.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	53.7	36-166			
bis (2-Ethylhexyl) phthalate	26.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	56.5	10-158			
Butyl benzyl phthalate	29.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	63.8	10-152			
Chrysene	31.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	67.7	17-169			
Dibenz (a,h) anthracene	32.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	70.3	10-227			
Diethyl phthalate	26.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	57.6	10-120			
Dimethyl phthalate	24.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	53.1	10-120			
Di-n-butyl phthalate	29.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	62.3	10-120			
Di-n-octyl phthalate	28.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	61.9	10-146			
Fluoranthene	30.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	66.2	26-137			
Fluorene	27.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.6	59-121			M
Hexachlorobenzene	19.6 ug/L	1.00	ug/L	46.7	<1.00 ug/L	41.8	10-152			
Hexachlorobutadiene	23.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	49.5	24-120			
Hexachlorocyclopentadiene	13.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	29.4	10-90			
Hexachloroethane	24.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	52.9	40-120			
Indeno (1,2,3-cd) pyrene	31.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	66.3	10-171			
Isophorone	18.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	39.3	21-196			
Naphthalene	26.0 ug/L	5.00	ug/L	46.7	<5.00 ug/L	55.6	21-133			
Nitrobenzene	26.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	57.3	35-180			
n-Nitrosodimethylamine	17.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	37.4	10-85			
n-Nitrosodi-n-propylamine	24.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	52.6	10-230			
n-Nitrosodiphenylamine	22.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	48.1	12-111			
p-Chloro-m-cresol	28.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	60.0	10-127			
Pentachlorophenol	24.9 ug/L	20.0	ug/L	46.7	<20.0 ug/L	53.3	14-176			
Phenanthrene	29.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	62.8	54-120			
Phenol	<10.0 ug/L	10.0	ug/L	47.2	<10.0 ug/L	20.5	10-120			



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 Client Site I.D.: Coopers Cove

Date Issued: December 18, 2023 14:49
 Project Number: 4260155
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Matrix Spike (BGL0580-MS1)	Source: 23L0718-03			Prepared & Analyzed: 12/14/2023						
Pyrene	29.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	62.2	52-120			
Pyridine	26.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	55.6	10-110			
Surr: 2,4,6-Tribromophenol (Surr)	55.1		ug/L	93.5	ug/L	59.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	24.1		ug/L	46.7	ug/L	51.6	9-117			
Surr: 2-Fluorophenol (Surr)	28.5		ug/L	93.5	ug/L	30.5	5-60			
Surr: Nitrobenzene-d5 (Surr)	26.1		ug/L	46.7	ug/L	55.8	5-151			
Surr: Phenol-d5 (Surr)	20.1		ug/L	93.5	ug/L	21.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	22.8		ug/L	46.7	ug/L	48.8	5-141			

Matrix Spike Dup (BGL0580-MSD1)	Source: 23L0718-03			Prepared & Analyzed: 12/14/2023						
1,2,4-Trichlorobenzene	26.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	55.8	44-142	15.8	20	
1,2-Dichlorobenzene	27.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.4	22-115	16.2	20	
1,3-Dichlorobenzene	25.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	55.4	22-112	16.6	20	
1,4-Dichlorobenzene	27.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	59.7	13-112	16.9	20	
2,4,6-Trichlorophenol	34.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	73.0	37-144	18.0	20	
2,4-Dichlorophenol	31.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	67.1	39-135	16.5	20	
2,4-Dimethylphenol	31.0 ug/L	5.00	ug/L	46.7	<5.00 ug/L	66.3	32-120	13.1	20	
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	80.1	39-139	24.0	20	P
2,4-Dinitrotoluene	37.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	80.4	10-191	23.7	20	P
2,6-Dinitrotoluene	31.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	67.3	50-158	18.7	20	
2-Chloronaphthalene	29.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	64.0	60-120	15.6	20	
2-Chlorophenol	28.3 ug/L	10.0	ug/L	46.7	<10.0 ug/L	60.6	23-134	15.4	20	
2-Nitrophenol	31.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	67.2	29-182	17.9	20	
3,3'-Dichlorobenzidine	24.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	51.8	10-262	41.0	20	P
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	73.3	10-181	26.3	20	P
4-Bromophenyl phenyl ether	29.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	62.1	53-127	19.1	20	
4-Chlorophenyl phenyl ether	27.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.0	25-158	16.0	20	
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	46.7	<50.0 ug/L	29.4	10-132	26.7	20	P
Acenaphthene	31.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	66.4	47-145	14.8	20	
Acenaphthylene	32.9 ug/L	10.0	ug/L	46.7	<10.0 ug/L	70.4	33-145	13.4	20	
Acetophenone	29.1 ug/L	20.0	ug/L	46.7	<20.0 ug/L	62.4	0-200	16.3	20	
Anthracene	34.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	72.7	27-133	24.5	20	P



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Matrix Spike Dup (BGL0580-MSD1)	Source: 23L0718-03			Prepared & Analyzed: 12/14/2023						
Benzo (a) anthracene	37.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	80.0	33-143	26.2	20	P
Benzo (a) pyrene	39.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	84.3	17-163	20.4	20	P
Benzo (b) fluoranthene	34.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	73.6	24-159	13.4	20	
Benzo (g,h,i) perylene	39.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	84.9	10-219	19.9	20	
Benzo (k) fluoranthene	30.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	64.5	11-162	1.20	20	
bis (2-Chloroethoxy) methane	30.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	65.5	33-184	16.7	20	
bis (2-Chloroethyl) ether	27.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.6	12-158	16.5	20	
2,2'-Oxybis (1-chloropropane)	29.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	63.7	36-166	17.0	20	
bis (2-Ethylhexyl) phthalate	33.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	70.9	10-158	22.7	20	P
Butyl benzyl phthalate	37.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	80.8	10-152	23.5	20	P
Chrysene	40.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	87.2	17-169	25.1	20	P
Dibenz (a,h) anthracene	40.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	86.0	10-227	20.1	20	P
Diethyl phthalate	33.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	70.8	10-120	20.6	20	P
Dimethyl phthalate	30.0 ug/L	10.0	ug/L	46.7	<10.0 ug/L	64.2	10-120	18.9	20	
Di-n-butyl phthalate	35.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	76.2	10-120	20.0	20	P
Di-n-octyl phthalate	33.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	71.5	10-146	14.4	20	
Fluoranthene	36.7 ug/L	10.0	ug/L	46.7	<10.0 ug/L	78.6	26-137	17.2	20	
Fluorene	32.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	68.6	59-121	15.7	20	
Hexachlorobenzene	23.9 ug/L	1.00	ug/L	46.7	<1.00 ug/L	51.1	10-152	20.0	20	
Hexachlorobutadiene	27.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.9	24-120	17.2	20	
Hexachlorocyclopentadiene	17.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	37.2	10-90	23.6	20	P
Hexachloroethane	29.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	62.4	40-120	16.5	20	
Indeno (1,2,3-cd) pyrene	38.2 ug/L	10.0	ug/L	46.7	<10.0 ug/L	81.7	10-171	20.8	20	P
Isophorone	21.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	45.7	21-196	15.0	20	
Naphthalene	31.2 ug/L	5.00	ug/L	46.7	<5.00 ug/L	66.7	21-133	18.2	20	
Nitrobenzene	31.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	68.1	35-180	17.1	20	
n-Nitrosodimethylamine	21.1 ug/L	10.0	ug/L	46.7	<10.0 ug/L	45.3	10-85	18.9	20	
n-Nitrosodi-n-propylamine	28.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	60.8	10-230	14.4	20	
n-Nitrosodiphenylamine	27.5 ug/L	10.0	ug/L	46.7	<10.0 ug/L	58.8	12-111	20.0	20	
p-Chloro-m-cresol	32.6 ug/L	10.0	ug/L	46.7	<10.0 ug/L	69.8	10-127	15.0	20	
Pentachlorophenol	34.1 ug/L	20.0	ug/L	46.7	<20.0 ug/L	73.0	14-176	31.1	20	P



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Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0580 - SW3510C/EPA600-MS

Matrix Spike Dup (BGL0580-MSD1)	Source: 23L0718-03			Prepared & Analyzed: 12/14/2023						
Phenanthrene	37.8 ug/L	10.0	ug/L	46.7	<10.0 ug/L	80.8	54-120	25.1	20	P
Phenol	11.4 ug/L	10.0	ug/L	47.2	<10.0 ug/L	24.3	10-120	17.0	20	
Pyrene	36.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	77.8	52-120	22.3	20	P
Pyridine	36.4 ug/L	10.0	ug/L	46.7	<10.0 ug/L	78.0	10-110	33.5	20	P

Surr: 2,4,6-Tribromophenol (Surr)	70.8		ug/L	93.5	ug/L	75.8	5-136			
Surr: 2-Fluorobiphenyl (Surr)	28.1		ug/L	46.7	ug/L	60.2	9-117			
Surr: 2-Fluorophenol (Surr)	32.9		ug/L	93.5	ug/L	35.2	5-60			
Surr: Nitrobenzene-d5 (Surr)	30.6		ug/L	46.7	ug/L	65.4	5-151			
Surr: Phenol-d5 (Surr)	23.8		ug/L	93.5	ug/L	25.4	5-60			
Surr: p-Terphenyl-d14 (Surr)	31.2		ug/L	46.7	ug/L	66.7	5-141			



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Final Report

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Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Summary of Data Qualifiers

- C Continuing calibration verification response for this analyte is outside specifications.
- Cl Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

PAGE 1 OF 1

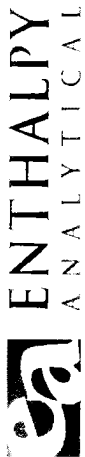
COMPANY NAME: Total Environmental Concepts INVOICE TO: Same PROJECT NAME/Quote #: Halstead Res. Release
 CONTACT: Shenna Hryvniak INVOICE CONTACT: Shenna Hryvniak SITE NAME: same
 ADDRESS: 8382 Terminal Rd, Horton, VA INVOICE ADDRESS: same PROJECT NUMBER: 4260155
 PHONE #: 804-389-7983 INVOICE PHONE #: same P.O. #: 4260155-001
 FAX #: N/A EMAIL: shryvniak@tecipro.com Pretreatment Program: N/A
 Is sample for compliance reporting? YES NO Regulatory State: VA Is sample from chlorinated supply? YES NO PWS I.D. #: _____
 SAMPLER NAME (PRINT): David C. Dudley SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days 3 Days(s)
 Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids, OF=Organic A=Air WP=Wipe, OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		COMMENTS
											8360-VOCs	8270-SVOCs	
1) L. Blankenship	<input checked="" type="checkbox"/>			12-11-23		4:00p DW	4	✓	✓				Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol <u>State Lead</u>
2)													
3) L. Rehak	<input checked="" type="checkbox"/>			12-11-23		4:00p DW	4	✓	✓				
4)													
5) W. Childress	<input checked="" type="checkbox"/>			12-11-23		4:00p DW	4	✓	✓				
6)													
7) S. Anderson	<input checked="" type="checkbox"/>			12-11-23		4:00p DW	4	✓	✓				
8)													
9)													
10)													

RECEIVED: [Signature] DATE / TIME: 12-13-23 10:30a LAB USE ONLY Therm ID: 311 COOLER TEMP 49 °C
 RECEIVED: [Signature] DATE / TIME: 12/13/23 1500 Custody Seals used and intact? (N) Received on ice? (N)
 RECEIVED: [Signature] DATE / TIME: 12/13/23 1500 Level III
 RECEIVED: [Signature] DATE / TIME: 12/13/23 1500 Level IV
TEC-Springfield 23L0783
Halstead
 Recd: 12/13/2023 Due: 12/18/2023

CHAIN OF CUSTODY

COMPANY NAME: <i>Total Environmental Concepts</i>		INVOICE TO: <i>same</i>		PROJECT NAME/Quote #: <i>Halstead Res. Release</i>	
CONTACT: <i>Shanna Hryvniak</i>		INVOICE CONTACT: <i>Shanna Hryvniak</i>		SITE NAME: <i>same</i>	
ADDRESS: <i>8382 Terminal Rd., Lorton, VA</i>		INVOICE ADDRESS: <i>same</i>		PROJECT NUMBER: <i>4260155</i>	
PHONE #: <i>804-389-9983</i>		INVOICE PHONE #: <i>same</i>		P.O. #: <i>4260155-001</i>	
FAX #: <i>N/A</i>		EMAIL: <i>shanna@tec-pro.com</i>		Pretreatment Program: <i>N/A</i>	
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State: <i>VA</i>		PWS I.D. #: _____	
SAMPLER NAME (PRINT): <i>David C. Delley</i>		SAMPLER SIGNATURE: <i>[Signature]</i>		Turn Around Time: Circle 10 5 Days or 3 Day(s)	
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe O=Other					
CLIENT SAMPLE I.D.		ANALYSIS / (PRESERVATIVE)		Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol <i>state lead</i>	
1) <i>M. Ambrister</i>	Grab	Field Filtered (Dissolved Metals)	Composite	Number of Containers	8270-VCS
2)	✓			4	8268-VCS
3) <i>T. Fitzgerald-17</i>	✓			4	
4)				4	
5) <i>T. Fitzgerald-46</i>	✓			4	
6)				4	
7) <i>S. Mills</i>	✓			4	
8)					
9) <i>Trip blank</i>					
10) <i>Blank</i>					
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: <i>12-13-23 10:30a</i>	RECEIVED:	DATE / TIME: _____	LAB USE ONLY Therm ID: <i>338</i>	COOLER TEMP <i>4.9</i> °C
RECEIVED: <i>[Signature]</i>	DATE / TIME: <i>12-13-23 15:00</i>	RECEIVED: <i>[Signature]</i>	DATE / TIME: _____	Custody Seals used and intact? (Y/N)	Received on ice? (Y/N)
RECEIVED: <i>[Signature]</i>	DATE / TIME: <i>12/13/23 1500</i>	RECEIVED: _____	DATE / TIME: _____	TEC-Springfield 23L0783 Halstead	
Page 88 of 90		Recd: 12/13/2023 Due: 12/18/2023			



Sample Preservation Log

Order ID: 23L0783 Date Performed: 12/13/23 Analyst Performing Check: HEC

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8087/609/509) PCB DW only		SVOC (525/627/6325)		CrVI + **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl
01	A																													
02	A																													
03	A																													
04	A																													
05	A																													
06	A																													
07	A																													
09	A																													

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: 2K04103 *pH must be adjusted between 9.3 - 9.7
 HCL ID: _____ Na2SO3 ID: _____ Ammonia Buffer Sol'n ID: _____
 5N NaOH ID: _____



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 18, 2023 14:49
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	4.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	No

Sample matrix is groundwater per Shanna Hryvniak via phone call. KRC 12/13/23 1515

Shanna Hryvniak notified via email for the GA1000mL unpreserved corresponding to sample ID: "S. Anderson" was received with chlorine or another oxidizing agent. Sodium Thiosulfate has been added to this sample to neutralize the oxidizing agent. KRC 12/13/23 1702

Trip Blanks not received , Shannah Hryvniak notified via email JNH 12/14/23 1015



Appendix I

Laboratory Analytical Report (12/13/2023)



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Certificate of Analysis

Final Report

Laboratory Order ID 23L0862

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Received: December 14, 2023 13:33

Date Issued: December 19, 2023 16:58

Lorton, VA 22079

Project Number: 4260155

Submitted To: Shanna Hryvniak

Purchase Order: 4260155-001

Client Site I.D.: Coopers Cove Res. Release Inv.

Enclosed are the results of analyses for samples received by the laboratory on 12/14/2023 13:33. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L0862

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
D. Christoff 1850 Coopers Cove Rd	23L0862-01	Ground Water	12/13/2023 16:15	12/14/2023 13:33
F. Whitten 1451 Coopers Cove Rd	23L0862-02	Ground Water	12/13/2023 15:35	12/14/2023 13:33
Trip Blank	23L0862-03	Ground Water	12/08/2023 12:10	12/14/2023 13:33



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff

Laboratory Sample ID: 23L0862-01

Grab Date/Time: 12/13/2023 16:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:25	12/15/23 18:25	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/15/23 18:25	12/15/23 18:25	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB



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 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff Laboratory Sample ID: 23L0862-01
 Grab Date/Time: 12/13/2023 16:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:25	12/15/23 18:25	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:25	12/15/23 18:25	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/15/23 18:25	12/15/23 18:25	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:25	12/15/23 18:25	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/15/23 18:25	12/15/23 18:25	RJB



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 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff Laboratory Sample ID: 23L0862-01
 Grab Date/Time: 12/13/2023 16:15
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:25	12/15/23 18:25	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:25	12/15/23 18:25	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/15/23 18:25	12/15/23 18:25	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	99.3 %		70-120		12/15/23 18:25	12/15/23 18:25	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	107 %		75-120		12/15/23 18:25	12/15/23 18:25	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	99.1 %		70-130		12/15/23 18:25	12/15/23 18:25	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	101 %		70-130		12/15/23 18:25	12/15/23 18:25	RJB

Semivolatile Organic Compounds by GCMS



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Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff

Laboratory Sample ID: 23L0862-01

Grab Date/Time: 12/13/2023 16:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/15/23 09:40	12/16/23 02:22	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS



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Grab Date/Time: 12/13/2023 16:15

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff Laboratory Sample ID: 23L0862-01
 Grab Date/Time: 12/13/2023 16:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:22	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/15/23 09:40	12/16/23 02:22	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:22	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. D. Christoff Laboratory Sample ID: 23L0862-01
 Grab Date/Time: 12/13/2023 16:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/15/23 09:40	12/16/23 02:22	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:22	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	65.0 %		5-136		12/15/23 09:40	12/16/23 02:22	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	59.3 %		9-117		12/15/23 09:40	12/16/23 02:22	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	33.9 %		5-60		12/15/23 09:40	12/16/23 02:22	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	64.5 %		5-151		12/15/23 09:40	12/16/23 02:22	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	23.4 %		5-60		12/15/23 09:40	12/16/23 02:22	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	44.0 %		5-141		12/15/23 09:40	12/16/23 02:22	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten	Laboratory Sample ID: 23L0862-02
Grab Date/Time: 12/13/2023 15:35	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:49	12/15/23 18:49	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:49	12/15/23 18:49	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/15/23 18:49	12/15/23 18:49	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 19, 2023 16:58
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Res. Release Inv.		

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten	Laboratory Sample ID: 23L0862-02
Grab Date/Time: 12/13/2023 15:35	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L	5.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Acetone	02	SW8260D	<10.0 ug/L	10.0	1	12/15/23 18:49	12/15/23 18:49	RJB	
Benzene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Bromobenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Bromochloromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Bromodichloromethane	02	SW8260D	<0.50 ug/L	0.50	1	12/15/23 18:49	12/15/23 18:49	RJB	
Bromoform	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Bromomethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Carbon disulfide	02	SW8260D	<10.0 ug/L	10.0	1	12/15/23 18:49	12/15/23 18:49	RJB	
Carbon tetrachloride	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Chlorobenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Chloroethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Chloroform	02	SW8260D	<0.50 ug/L	0.50	1	12/15/23 18:49	12/15/23 18:49	RJB	
Chloromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Dibromochloromethane	02	SW8260D	<0.50 ug/L	0.50	1	12/15/23 18:49	12/15/23 18:49	RJB	
Dibromomethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L	5.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Ethylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L	0.80	1	12/15/23 18:49	12/15/23 18:49	RJB	
Iodomethane	02	SW8260D	<10.0 ug/L	10.0	1	12/15/23 18:49	12/15/23 18:49	RJB	
Isopropylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/15/23 18:49	12/15/23 18:49	RJB	
m+p-Xylenes	02	SW8260D	<2.00 ug/L	2.00	1	12/15/23 18:49	12/15/23 18:49	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 19, 2023 16:58
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Res. Release Inv.		

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten	Laboratory Sample ID: 23L0862-02
Grab Date/Time: 12/13/2023 15:35	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/15/23 18:49	12/15/23 18:49	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/15/23 18:49	12/15/23 18:49	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/15/23 18:49	12/15/23 18:49	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	98.4 %		70-120		12/15/23 18:49	12/15/23 18:49	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	106 %		75-120		12/15/23 18:49	12/15/23 18:49	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	98.3 %		70-130		12/15/23 18:49	12/15/23 18:49	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	102 %		70-130		12/15/23 18:49	12/15/23 18:49	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten Laboratory Sample ID: 23L0862-02
 Grab Date/Time: 12/13/2023 15:35
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/15/23 09:40	12/16/23 02:51	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten Laboratory Sample ID: 23L0862-02
 Grab Date/Time: 12/13/2023 15:35
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten	Laboratory Sample ID: 23L0862-02
Grab Date/Time: 12/13/2023 15:35	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:51	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	12/15/23 09:40	12/16/23 02:51	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	12/15/23 09:40	12/16/23 02:51	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. F. Whitten Laboratory Sample ID: 23L0862-02
 Grab Date/Time: 12/13/2023 15:35
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/15/23 09:40	12/16/23 02:51	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	12/15/23 09:40	12/16/23 02:51	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	63.8 %		5-136		12/15/23 09:40	12/16/23 02:51	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	57.7 %		9-117		12/15/23 09:40	12/16/23 02:51	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	32.0 %		5-60		12/15/23 09:40	12/16/23 02:51	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	63.0 %		5-151		12/15/23 09:40	12/16/23 02:51	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	23.1 %		5-60		12/15/23 09:40	12/16/23 02:51	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	48.8 %		5-141		12/15/23 09:40	12/16/23 02:51	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0862-03
 Grab Date/Time: 12/08/2023 12:10
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	12/15/23 14:09	12/15/23 14:09	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/15/23 14:09	12/15/23 14:09	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23L0862-03
Grab Date/Time: 12/08/2023 12:10	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	12/15/23 14:09	12/15/23 14:09	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	12/15/23 14:09	12/15/23 14:09	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	12/15/23 14:09	12/15/23 14:09	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	12/15/23 14:09	12/15/23 14:09	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	12/15/23 14:09	12/15/23 14:09	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L0862

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23L0862-03
Grab Date/Time: 12/08/2023 12:10	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	4.68 ug/L		4.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	12/15/23 14:09	12/15/23 14:09	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	12/15/23 14:09	12/15/23 14:09	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	12/15/23 14:09	12/15/23 14:09	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	97.4 %		70-120		12/15/23 14:09	12/15/23 14:09	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	106 %		75-120		12/15/23 14:09	12/15/23 14:09	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	98.5 %		70-130		12/15/23 14:09	12/15/23 14:09	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	101 %		70-130		12/15/23 14:09	12/15/23 14:09	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Semivolatile Organic Compounds by GCMS

Preparation Method: SW3510C/EPA600-MS

23L0862-01	1070 mL / 1.00 mL	SW8270E	BGL0636	SGL0652	AK30271
23L0862-02	1070 mL / 1.00 mL	SW8270E	BGL0636	SGL0652	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Volatile Organic Compounds by GCMS

Preparation Method: SW5030B-MS

23L0862-01	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
23L0862-02	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
23L0862-03	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL0636-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0636	SGL0652	AK30271
BGL0636-BS1	1000 mL / 1.00 mL	SW8270E	BGL0636	SGL0652	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL0669-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
BGL0669-BLK2	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
BGL0669-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
BGL0669-BS2	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
BGL0669-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176
BGL0669-MSD1	5.00 mL / 5.00 mL	SW8260D	BGL0669	SGL0622	AL30176



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Blank (BGL0669-BLK1)

Prepared & Analyzed: 12/15/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Blank (BGL0669-BLK1)

Prepared & Analyzed: 12/15/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Blank (BGL0669-BLK1)

Prepared & Analyzed: 12/15/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	46.6		ug/L	50.0		93.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	53.2		ug/L	50.0		106	75-120			
Surr: Dibromofluoromethane (Surr)	48.6		ug/L	50.0		97.2	70-130			
Surr: Toluene-d8 (Surr)	51.0		ug/L	50.0		102	70-130			

LCS (BGL0669-BS1)

Prepared & Analyzed: 12/15/2023

1,1,1,2-Tetrachloroethane	49.7 ug/L	0.4	ug/L	50.0 ug/L	99.3	80-130
1,1,1-Trichloroethane	50.0 ug/L	1	ug/L	50.0 ug/L	100	65-130
1,1,1,2,2-Tetrachloroethane	48.8 ug/L	0.4	ug/L	50.0 ug/L	97.7	65-130
1,1,2-Trichloroethane	50.2 ug/L	1	ug/L	50.0 ug/L	100	75-125
1,1-Dichloroethane	50.9 ug/L	1	ug/L	50.0 ug/L	102	70-135
1,1-Dichloroethylene	51.0 ug/L	1	ug/L	50.0 ug/L	102	70-130
1,1-Dichloropropene	51.7 ug/L	1	ug/L	50.0 ug/L	103	75-135
1,2,3-Trichlorobenzene	51.9 ug/L	1	ug/L	50.0 ug/L	104	55-140
1,2,3-Trichloropropane	45.6 ug/L	1	ug/L	50.0 ug/L	91.3	75-125
1,2,4-Trichlorobenzene	47.9 ug/L	1	ug/L	50.0 ug/L	95.9	65-135
1,2,4-Trimethylbenzene	52.8 ug/L	1	ug/L	50.0 ug/L	106	75-130
1,2-Dibromo-3-chloropropane (DBCP)	38.8 ug/L	1	ug/L	50.0 ug/L	77.5	50-130
1,2-Dibromoethane (EDB)	47.8 ug/L	1	ug/L	50.0 ug/L	95.5	80-120
1,2-Dichlorobenzene	47.8 ug/L	0.5	ug/L	50.0 ug/L	95.6	70-120
1,2-Dichloroethane	46.6 ug/L	1	ug/L	50.0 ug/L	93.1	70-130
1,2-Dichloropropane	50.6 ug/L	0.5	ug/L	50.0 ug/L	101	75-125
1,3,5-Trimethylbenzene	50.9 ug/L	1	ug/L	50.0 ug/L	102	75-125
1,3-Dichlorobenzene	50.2 ug/L	1	ug/L	50.0 ug/L	100	75-125
1,3-Dichloropropane	48.7 ug/L	1	ug/L	50.0 ug/L	97.5	75-125



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

LCS (BGL0669-BS1)

Prepared & Analyzed: 12/15/2023

1,4-Dichlorobenzene	48.0 ug/L	1	ug/L	50.0	ug/L	96.0	75-125			
2,2-Dichloropropane	49.8 ug/L	1	ug/L	50.0	ug/L	99.6	70-135			
2-Butanone (MEK)	51.0 ug/L	10	ug/L	50.0	ug/L	102	30-150			
2-Chlorotoluene	50.0 ug/L	1	ug/L	50.0	ug/L	100	75-125			
2-Hexanone (MBK)	47.5 ug/L	5	ug/L	50.0	ug/L	94.9	55-130			
4-Chlorotoluene	51.0 ug/L	1	ug/L	50.0	ug/L	102	75-130			
4-Isopropyltoluene	52.4 ug/L	1	ug/L	50.0	ug/L	105	75-130			
4-Methyl-2-pentanone (MIBK)	52.0 ug/L	5	ug/L	50.0	ug/L	104	60-135			
Acetone	41.3 ug/L	10	ug/L	50.0	ug/L	82.6	40-140			
Benzene	51.7 ug/L	1	ug/L	50.0	ug/L	103	80-120			
Bromobenzene	51.4 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Bromochloromethane	48.5 ug/L	1	ug/L	50.0	ug/L	97.0	65-130			
Bromodichloromethane	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	75-120			
Bromoform	51.7 ug/L	1	ug/L	50.0	ug/L	103	70-130			
Bromomethane	34.3 ug/L	1	ug/L	50.0	ug/L	68.6	30-145			
Carbon disulfide	43.9 ug/L	10	ug/L	50.0	ug/L	87.8	35-160			
Carbon tetrachloride	49.1 ug/L	1	ug/L	50.0	ug/L	98.1	65-140			
Chlorobenzene	49.8 ug/L	1	ug/L	50.0	ug/L	99.5	80-120			
Chloroethane	46.2 ug/L	1	ug/L	50.0	ug/L	92.4	60-135			
Chloroform	48.8 ug/L	0.5	ug/L	50.0	ug/L	97.5	65-135			
Chloromethane	48.5 ug/L	1	ug/L	50.0	ug/L	97.0	40-125			
cis-1,2-Dichloroethylene	52.1 ug/L	1	ug/L	50.0	ug/L	104	70-125			
cis-1,3-Dichloropropene	50.1 ug/L	1	ug/L	50.0	ug/L	100	70-130			
Dibromochloromethane	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	60-135			
Dibromomethane	47.5 ug/L	1	ug/L	50.0	ug/L	95.1	75-125			
Dichlorodifluoromethane	60.6 ug/L	1	ug/L	50.0	ug/L	121	30-155			
Ethylbenzene	52.1 ug/L	1	ug/L	50.0	ug/L	104	75-125			
Hexachlorobutadiene	45.2 ug/L	0.8	ug/L	50.0	ug/L	90.4	50-140			
Isopropylbenzene	50.4 ug/L	1	ug/L	50.0	ug/L	101	75-125			
m+p-Xylenes	104 ug/L	2	ug/L	100	ug/L	104	75-130			
Methylene chloride	50.8 ug/L	4	ug/L	50.0	ug/L	102	55-140			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

LCS (BGL0669-BS1)

Prepared & Analyzed: 12/15/2023

Methyl-t-butyl ether (MTBE)	47.5 ug/L	1	ug/L	50.0	ug/L	95.0	65-125			
Naphthalene	47.5 ug/L	1	ug/L	50.0	ug/L	95.0	55-140			
n-Butylbenzene	50.7 ug/L	1	ug/L	50.0	ug/L	101	70-135			
n-Propylbenzene	51.0 ug/L	1	ug/L	50.0	ug/L	102	70-130			
o-Xylene	51.7 ug/L	1	ug/L	50.0	ug/L	103	80-120			
sec-Butylbenzene	54.3 ug/L	1	ug/L	50.0	ug/L	109	70-125			
Styrene	52.4 ug/L	1	ug/L	50.0	ug/L	105	65-135			
tert-Butylbenzene	51.3 ug/L	1	ug/L	50.0	ug/L	103	70-130			
Tetrachloroethylene (PCE)	41.8 ug/L	1	ug/L	50.0	ug/L	83.7	45-150			
Toluene	51.9 ug/L	1	ug/L	50.0	ug/L	104	75-120			
trans-1,2-Dichloroethylene	51.0 ug/L	1	ug/L	50.0	ug/L	102	60-140			
trans-1,3-Dichloropropene	53.1 ug/L	1	ug/L	50.0	ug/L	106	55-140			
Trichloroethylene	50.4 ug/L	1	ug/L	50.0	ug/L	101	70-125			
Trichlorofluoromethane	54.4 ug/L	1	ug/L	50.0	ug/L	109	60-145			
Vinyl chloride	46.8 ug/L	0.5	ug/L	50.0	ug/L	93.5	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	47.1		ug/L	50.0	ug/L	94.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.4		ug/L	50.0	ug/L	105	75-120			
Surr: Dibromofluoromethane (Surr)	49.0		ug/L	50.0	ug/L	98.0	70-130			
Surr: Toluene-d8 (Surr)	50.3		ug/L	50.0	ug/L	101	70-130			

Matrix Spike (BGL0669-MS1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

1,1,1,2-Tetrachloroethane	51.0 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	80-130			
1,1,1-Trichloroethane	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	65-130			
1,1,2,2-Tetrachloroethane	51.4 ug/L	0.4	ug/L	50.0	<0.4 ug/L	103	65-130			
1,1,2-Trichloroethane	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	75-125			
1,1-Dichloroethane	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	70-135			
1,1-Dichloroethylene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	50-145			
1,1-Dichloropropene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	75-135			
1,2,3-Trichlorobenzene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	55-140			
1,2,3-Trichloropropane	47.5 ug/L	1	ug/L	50.0	<1 ug/L	95.0	75-125			
1,2,4-Trichlorobenzene	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	65-135			
1,2,4-Trimethylbenzene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	75-130			



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Final Report

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 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Matrix Spike (BGL0669-MS1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

1,2-Dibromo-3-chloropropane (DBCP)	40.8 ug/L	1	ug/L	50.0	<1 ug/L	81.7	50-130			
1,2-Dibromoethane (EDB)	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120			
1,2-Dichlorobenzene	49.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	97.9	70-120			
1,2-Dichloroethane	48.7 ug/L	1	ug/L	50.0	<1 ug/L	97.3	70-130			
1,2-Dichloropropane	52.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	105	75-125			
1,3,5-Trimethylbenzene	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124			
1,3-Dichlorobenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125			
1,3-Dichloropropane	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125			
1,4-Dichlorobenzene	48.7 ug/L	1	ug/L	50.0	<1 ug/L	97.5	75-125			
2,2-Dichloropropane	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.9	70-135			
2-Butanone (MEK)	50.6 ug/L	10	ug/L	50.0	<10 ug/L	101	30-150			
2-Chlorotoluene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
2-Hexanone (MBK)	48.4 ug/L	5	ug/L	50.0	<5 ug/L	96.8	55-130			
4-Chlorotoluene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130			
4-Isopropyltoluene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-130			
4-Methyl-2-pentanone (MIBK)	55.2 ug/L	5	ug/L	50.0	<5 ug/L	110	60-135			
Acetone	40.7 ug/L	10	ug/L	50.0	<10 ug/L	81.4	40-140			
Benzene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120			
Bromobenzene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
Bromochloromethane	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	65-130			
Bromodichloromethane	52.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	105	75-136			
Bromoform	54.7 ug/L	1	ug/L	50.0	<1 ug/L	109	70-130			
Bromomethane	32.8 ug/L	1	ug/L	50.0	<1 ug/L	65.6	30-145			
Carbon disulfide	46.7 ug/L	10	ug/L	50.0	<10 ug/L	93.4	35-160			
Carbon tetrachloride	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	65-140			
Chlorobenzene	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
Chloroethane	45.4 ug/L	1	ug/L	50.0	<1 ug/L	90.8	60-135			
Chloroform	49.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.1	65-135			
Chloromethane	43.8 ug/L	1	ug/L	50.0	<1 ug/L	87.7	40-125			
cis-1,2-Dichloroethylene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	70-125			
cis-1,3-Dichloropropene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	47-136			



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Date Issued: December 19, 2023 16:58
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 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Matrix Spike (BGL0669-MS1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

Dibromochloromethane	54.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	109	60-135			
Dibromomethane	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
Dichlorodifluoromethane	59.4 ug/L	1	ug/L	50.0	<1 ug/L	119	30-155			
Ethylbenzene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
Hexachlorobutadiene	44.7 ug/L	0.8	ug/L	50.0	<0.8 ug/L	89.4	50-140			
Isopropylbenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	75-125			
m+p-Xylenes	103 ug/L	2	ug/L	100	<2 ug/L	102	75-130			
Methylene chloride	50.6 ug/L	4	ug/L	50.0	<4 ug/L	101	55-140			
Methyl-t-butyl ether (MTBE)	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	65-125			
Naphthalene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	55-140			
n-Butylbenzene	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	70-135			
n-Propylbenzene	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
o-Xylene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120			
sec-Butylbenzene	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	70-125			
Styrene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	65-135			
tert-Butylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
Tetrachloroethylene (PCE)	41.5 ug/L	1	ug/L	50.0	<1 ug/L	83.0	51-231			
Toluene	53.3 ug/L	1	ug/L	50.0	1.03 ug/L	105	75-120			
trans-1,2-Dichloroethylene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	60-140			
trans-1,3-Dichloropropene	56.3 ug/L	1	ug/L	50.0	<1 ug/L	113	55-140			
Trichloroethylene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-125			
Trichlorofluoromethane	53.9 ug/L	1	ug/L	50.0	<1 ug/L	108	60-145			
Vinyl chloride	45.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	89.9	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	47.5		ug/L	50.0	ug/L	95.0	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.0		ug/L	50.0	ug/L	104	75-120			
Surr: Dibromofluoromethane (Surr)	49.5		ug/L	50.0	ug/L	98.9	70-130			
Surr: Toluene-d8 (Surr)	50.9		ug/L	50.0	ug/L	102	70-130			



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Matrix Spike Dup (BGL0669-MSD1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

1,1,1,2-Tetrachloroethane	51.1 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	80-130	0.0196	30	
1,1,1-Trichloroethane	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	65-130	0.337	30	
1,1,2,2-Tetrachloroethane	53.9 ug/L	0.4	ug/L	50.0	<0.4 ug/L	108	65-130	4.77	30	
1,1,2-Trichloroethane	55.3 ug/L	1	ug/L	50.0	<1 ug/L	111	75-125	2.42	30	
1,1-Dichloroethane	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-135	0.293	30	
1,1-Dichloroethylene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	50-145	0.138	30	
1,1-Dichloropropene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	75-135	0.155	30	
1,2,3-Trichlorobenzene	54.0 ug/L	1	ug/L	50.0	<1 ug/L	108	55-140	1.02	30	
1,2,3-Trichloropropane	50.0 ug/L	1	ug/L	50.0	<1 ug/L	99.9	75-125	4.99	30	
1,2,4-Trichlorobenzene	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.8	65-135	2.64	30	
1,2,4-Trimethylbenzene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	75-130	0.922	30	
1,2-Dibromo-3-chloropropane (DBCP)	43.8 ug/L	1	ug/L	50.0	<1 ug/L	87.6	50-130	7.02	30	
1,2-Dibromoethane (EDB)	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	80-120	2.98	30	
1,2-Dichlorobenzene	49.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.7	70-120	1.76	30	
1,2-Dichloroethane	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.6	70-130	1.25	30	
1,2-Dichloropropane	52.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	75-125	0.626	30	
1,3,5-Trimethylbenzene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	75-124	0.196	30	
1,3-Dichlorobenzene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125	0.136	30	
1,3-Dichloropropane	53.7 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125	2.93	30	
1,4-Dichlorobenzene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.6	75-125	1.10	30	
2,2-Dichloropropane	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	70-135	0.623	30	
2-Butanone (MEK)	51.1 ug/L	10	ug/L	50.0	<10 ug/L	102	30-150	0.885	30	
2-Chlorotoluene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125	0.883	30	
2-Hexanone (MBK)	49.0 ug/L	5	ug/L	50.0	<5 ug/L	98.0	55-130	1.23	30	
4-Chlorotoluene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130	0.462	30	
4-Isopropyltoluene	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	75-130	0.381	30	
4-Methyl-2-pentanone (MIBK)	56.0 ug/L	5	ug/L	50.0	<5 ug/L	112	60-135	1.28	30	
Acetone	41.8 ug/L	10	ug/L	50.0	<10 ug/L	83.5	40-140	2.57	30	
Benzene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120	0.490	30	
Bromobenzene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125	0.583	30	
Bromochloromethane	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	65-130	1.76	30	



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Matrix Spike Dup (BGL0669-MSD1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Bromodichloromethane	53.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	75-136	0.833	30	
Bromoform	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130	3.42	30	
Bromomethane	31.8 ug/L	1	ug/L	50.0	<1 ug/L	63.6	30-145	2.97	30	
Carbon disulfide	41.0 ug/L	10	ug/L	50.0	<10 ug/L	82.1	35-160	12.9	30	
Carbon tetrachloride	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	65-140	0.782	30	
Chlorobenzene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	80-120	0.690	30	
Chloroethane	43.3 ug/L	1	ug/L	50.0	<1 ug/L	86.5	60-135	4.83	30	
Chloroform	49.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.5	65-135	0.383	30	
Chloromethane	41.8 ug/L	1	ug/L	50.0	<1 ug/L	83.7	40-125	4.65	30	
cis-1,2-Dichloroethylene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	70-125	0.419	30	
cis-1,3-Dichloropropene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	47-136	1.13	30	
Dibromochloromethane	55.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	111	60-135	1.74	30	
Dibromomethane	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125	3.56	30	
Dichlorodifluoromethane	57.1 ug/L	1	ug/L	50.0	<1 ug/L	114	30-155	3.90	30	
Ethylbenzene	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	75-125	0.229	30	
Hexachlorobutadiene	44.3 ug/L	0.8	ug/L	50.0	<0.8 ug/L	88.6	50-140	0.876	30	
Isopropylbenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.5	75-125	0.621	30	
m+p-Xylenes	103 ug/L	2	ug/L	100	<2 ug/L	102	75-130	0.359	30	
Methylene chloride	49.9 ug/L	4	ug/L	50.0	<4 ug/L	99.8	55-140	1.33	30	
Methyl-t-butyl ether (MTBE)	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	65-125	3.59	30	
Naphthalene	52.7 ug/L	1	ug/L	50.0	<1 ug/L	105	55-140	3.46	30	
n-Butylbenzene	50.4 ug/L	1	ug/L	50.0	<1 ug/L	101	70-135	0.437	30	
n-Propylbenzene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130	0.816	30	
o-Xylene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120	0.134	30	
sec-Butylbenzene	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	70-125	0.260	30	
Styrene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	65-135	0.454	30	
tert-Butylbenzene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	70-130	0.508	30	
Tetrachloroethylene (PCE)	41.6 ug/L	1	ug/L	50.0	<1 ug/L	83.1	51-231	0.169	30	
Toluene	53.8 ug/L	1	ug/L	50.0	1.03 ug/L	105	75-120	0.841	30	
trans-1,2-Dichloroethylene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	60-140	0.0787	30	
trans-1,3-Dichloropropene	57.8 ug/L	1	ug/L	50.0	<1 ug/L	116	55-140	2.61	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0669 - SW5030B-MS

Matrix Spike Dup (BGL0669-MSD1)

Source: 23L0808-01

Prepared & Analyzed: 12/15/2023

Trichloroethylene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	70-125	0.369	30	
Trichlorofluoromethane	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	60-145	0.576	30	
Vinyl chloride	42.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	84.9	50-145	5.77	30	
<hr style="border-top: 1px dashed black;"/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	48.4		ug/L	50.0	ug/L	96.7	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.4		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	49.2		ug/L	50.0	ug/L	98.3	70-130			
Surr: Toluene-d8 (Surr)	50.9		ug/L	50.0	ug/L	102	70-130			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

Blank (BGL0636-BLK1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

Blank (BGL0636-BLK1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							B
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

Blank (BGL0636-BLK1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							B
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							B
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	71.1		ug/L	100		71.1	5-136			
Surr: 2-Fluorobiphenyl (Surr)	30.2		ug/L	50.0		60.4	9-117			



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Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

Blank (BGL0636-BLK1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

Surr: 2-Fluorophenol (Surr)	38.9		ug/L	100		38.9	5-60			
Surr: Nitrobenzene-d5 (Surr)	34.3		ug/L	50.0		68.6	5-151			
Surr: Phenol-d5 (Surr)	28.5		ug/L	100		28.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.3		ug/L	50.0		60.6	5-141			

LCS (BGL0636-BS1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

1,2,4-Trichlorobenzene	28.1 ug/L	10.0	ug/L	50.0	ug/L	56.2	57-130			L
1,2-Dichlorobenzene	31.8 ug/L	10.0	ug/L	50.0	ug/L	63.6	22-115			
1,3-Dichlorobenzene	30.0 ug/L	10.0	ug/L	50.0	ug/L	60.0	22-112			
1,4-Dichlorobenzene	31.7 ug/L	10.0	ug/L	50.0	ug/L	63.4	13-112			
2,4,6-Trichlorophenol	36.5 ug/L	10.0	ug/L	50.0	ug/L	73.1	52-129			
2,4-Dichlorophenol	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.2	53-122			
2,4-Dimethylphenol	33.0 ug/L	5.00	ug/L	50.0	ug/L	66.1	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	64.3	48-127			
2,4-Dinitrotoluene	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.1	10-173			
2,6-Dinitrotoluene	30.7 ug/L	10.0	ug/L	50.0	ug/L	61.5	68-137			L
2-Chloronaphthalene	32.5 ug/L	10.0	ug/L	50.0	ug/L	64.9	65-120			L
2-Chlorophenol	32.6 ug/L	10.0	ug/L	50.0	ug/L	65.2	36-120			
2-Nitrophenol	34.3 ug/L	10.0	ug/L	50.0	ug/L	68.7	45-167			
3,3'-Dichlorobenzidine	27.5 ug/L	10.0	ug/L	50.0	ug/L	55.0	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	58.8	53-130			
4-Bromophenyl phenyl ether	28.7 ug/L	10.0	ug/L	50.0	ug/L	57.5	65-120			L
4-Chlorophenyl phenyl ether	28.2 ug/L	10.0	ug/L	50.0	ug/L	56.4	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	28.1	13-129			
Acenaphthene	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.5	60-132			
Acenaphthylene	35.8 ug/L	10.0	ug/L	50.0	ug/L	71.6	54-126			
Acetophenone	32.8 ug/L	20.0	ug/L	50.0	ug/L	65.7	0-200			
Anthracene	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.4	43-120			
Benzo (a) anthracene	34.5 ug/L	10.0	ug/L	50.0	ug/L	69.0	42-133			
Benzo (a) pyrene	38.3 ug/L	10.0	ug/L	50.0	ug/L	76.6	32-148			
Benzo (b) fluoranthene	41.8 ug/L	10.0	ug/L	50.0	ug/L	83.5	42-140			
Benzo (g,h,i) perylene	30.8 ug/L	10.0	ug/L	50.0	ug/L	61.7	10-195			



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Date Issued: December 19, 2023 16:58
 Project Number: 4260155
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

LCS (BGL0636-BS1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

Benzo (k) fluoranthene	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.1	25-146			
bis (2-Chloroethoxy) methane	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.4	49-165			
bis (2-Chloroethyl) ether	29.9 ug/L	10.0	ug/L	50.0	ug/L	59.9	43-126			
2,2'-Oxybis (1-chloropropane)	33.8 ug/L	10.0	ug/L	50.0	ug/L	67.5	63-139			
bis (2-Ethylhexyl) phthalate	29.4 ug/L	10.0	ug/L	50.0	ug/L	58.8	29-137			
Butyl benzyl phthalate	33.8 ug/L	10.0	ug/L	50.0	ug/L	67.5	10-140			
Chrysene	37.6 ug/L	10.0	ug/L	50.0	ug/L	75.1	44-140			
Dibenz (a,h) anthracene	32.6 ug/L	10.0	ug/L	50.0	ug/L	65.2	10-200			
Diethyl phthalate	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.9	10-120			
Dimethyl phthalate	29.8 ug/L	10.0	ug/L	50.0	ug/L	59.7	10-120			
Di-n-butyl phthalate	40.2 ug/L	10.0	ug/L	50.0	ug/L	80.3	10-120			
Di-n-octyl phthalate	46.9 ug/L	10.0	ug/L	50.0	ug/L	93.8	19-132			
Fluoranthene	42.2 ug/L	10.0	ug/L	50.0	ug/L	84.4	43-121			
Fluorene	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.7	70-120			L
Hexachlorobenzene	23.8 ug/L	1.00	ug/L	50.0	ug/L	47.6	10-142			
Hexachlorobutadiene	30.7 ug/L	10.0	ug/L	50.0	ug/L	61.4	38-120			
Hexachlorocyclopentadiene	15.8 ug/L	10.0	ug/L	50.0	ug/L	31.5	10-76			
Hexachloroethane	33.9 ug/L	10.0	ug/L	50.0	ug/L	67.8	55-120			
Indeno (1,2,3-cd) pyrene	30.8 ug/L	10.0	ug/L	50.0	ug/L	61.6	10-151			
Isophorone	21.7 ug/L	10.0	ug/L	50.0	ug/L	43.5	47-180			L
Naphthalene	34.3 ug/L	5.00	ug/L	50.0	ug/L	68.6	36-120			
Nitrobenzene	36.0 ug/L	10.0	ug/L	50.0	ug/L	71.9	54-158			
n-Nitrosodimethylamine	23.7 ug/L	10.0	ug/L	50.0	ug/L	47.4	10-85			
n-Nitrosodi-n-propylamine	32.0 ug/L	10.0	ug/L	50.0	ug/L	63.9	14-198			
n-Nitrosodiphenylamine	26.7 ug/L	10.0	ug/L	50.0	ug/L	53.5	12-97			
p-Chloro-m-cresol	33.0 ug/L	10.0	ug/L	50.0	ug/L	66.1	10-142			
Pentachlorophenol	30.7 ug/L	20.0	ug/L	50.0	ug/L	61.4	38-152			
Phenanthrene	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.6	65-120			
Phenol	19.4 ug/L	10.0	ug/L	50.5	ug/L	38.4	17-120			
Pyrene	35.1 ug/L	10.0	ug/L	50.0	ug/L	70.2	70-120			
Pyridine	390 ug/L	10.0	ug/L	50.0	ug/L	781	10-103			L



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0636 - SW3510C/EPA600-MS

LCS (BGL0636-BS1)

Prepared: 12/15/2023 Analyzed: 12/16/2023

Surr: 2,4,6-Tribromophenol (Surr)	75.1		ug/L	100	ug/L	75.1	5-136			
Surr: 2-Fluorobiphenyl (Surr)	31.4		ug/L	50.0	ug/L	62.9	9-117			
Surr: 2-Fluorophenol (Surr)	42.4		ug/L	100	ug/L	42.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	36.1		ug/L	50.0	ug/L	72.2	5-151			
Surr: Phenol-d5 (Surr)	30.5		ug/L	100	ug/L	30.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	33.0		ug/L	50.0	ug/L	65.9	5-141			



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Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2,4-Trichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,2-Diphenylhydrazine	VELAP,PADEP,NCDEQ,WVDEP
1,3-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP

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Final Report

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Analyte	Certifications
1,3-Dinitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
1-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2,3,4,6-Tetrachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4,6-Trichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dimethylphenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrophenol	VELAP,PADEP,NCDEQ,WVDEP
2,4-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dichlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2,6-Dinitrotoluene	VELAP,PADEP,NCDEQ,WVDEP
2-Chloronaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Chlorophenol	VELAP,PADEP,NCDEQ,WVDEP
2-Methylnaphthalene	VELAP,PADEP,NCDEQ,WVDEP
2-Naphthylamine	VELAP,PADEP,NCDEQ,WVDEP
2-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
2-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
3,3'-Dichlorobenzidine	VELAP,PADEP,NCDEQ,WVDEP
3-Methylcholanthrene	VELAP,PADEP,NCDEQ,WVDEP
3-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4,6-Dinitro-2-methylphenol	VELAP,PADEP,NCDEQ,WVDEP
4-Aminobiphenyl	VELAP,PADEP,NCDEQ,WVDEP
4-Bromophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Chloroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Chlorophenyl phenyl ether	VELAP,PADEP,NCDEQ,WVDEP
4-Nitroaniline	VELAP,PADEP,NCDEQ,WVDEP
4-Nitrophenol	VELAP,PADEP,NCDEQ,WVDEP
7,12-Dimethylbenz (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthene	VELAP,PADEP,NCDEQ,WVDEP
Acenaphthylene	VELAP,PADEP,NCDEQ,WVDEP
Acetophenone	VELAP,PADEP,NCDEQ,WVDEP
Aniline	VELAP,PADEP,NCDEQ,WVDEP
Anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzidine	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (a) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (b) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	VELAP,PADEP,NCDEQ,WVDEP
Benzo (k) fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Benzoic acid	VELAP,PADEP,NCDEQ,WVDEP
Benzyl alcohol	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethoxy) methane	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Chloroethyl) ether	VELAP,PADEP,NCDEQ,WVDEP
2,2'-Oxybis (1-chloropropane)	VELAP,PADEP,NCDEQ,WVDEP
bis (2-Ethylhexyl) phthalate	VELAP,PADEP,NCDEQ,WVDEP
Butyl benzyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Chrysene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,PADEP,NCDEQ,WVDEP
Dibenz (a,j) acridine	VELAP,PADEP,NCDEQ,WVDEP
Dibenzofuran	VELAP,PADEP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Dimethyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Di-n-octyl phthalate	VELAP,PADEP,NCDEQ,WVDEP
Diphenylamine	VELAP,PADEP,NCDEQ,WVDEP
Ethyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Fluoranthene	VELAP,PADEP,NCDEQ,WVDEP
Fluorene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobenzene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorobutadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachlorocyclopentadiene	VELAP,PADEP,NCDEQ,WVDEP
Hexachloroethane	VELAP,PADEP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,PADEP,NCDEQ,WVDEP
Isophorone	VELAP,PADEP,NCDEQ,WVDEP
m+p-Cresols	VELAP,PADEP,NCDEQ,WVDEP
Methyl methanesulfonate	VELAP,PADEP,NCDEQ,WVDEP
Naphthalene	VELAP,PADEP,NCDEQ,WVDEP
Nitrobenzene	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodimethylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-butylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodi-n-propylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosodiphenylamine	VELAP,PADEP,NCDEQ,WVDEP
n-Nitrosopiperidine	VELAP,PADEP,NCDEQ,WVDEP
o+m+p-Cresols	NCDEQ,WVDEP
o-Cresol	VELAP,PADEP,NCDEQ,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	VELAP,PADEP,NCDEQ,WVDEP
p-Chloro-m-cresol	VELAP,PADEP,NCDEQ,WVDEP
Pentachloronitrobenzene (quintozene)	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
Phenacetin	VELAP,PADEP,NCDEQ,WVDEP
Phenanthrene	VELAP,PADEP,NCDEQ,WVDEP
Phenol	VELAP,PADEP,NCDEQ,WVDEP
Pronamide	VELAP,PADEP,NCDEQ,WVDEP
Pyrene	VELAP,PADEP,NCDEQ,WVDEP
Pyridine	VELAP,PADEP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Summary of Data Qualifiers

B Blank contamination. The recorded result is associated with a contaminated blank.

L LCS recovery is outside of established acceptance limits

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: *Total Environmental Concepts* INVOICE TO: *same*
 CONTACT: *Shanna Hryniak* INVOICE CONTACT: *Shanna Hryniak*
 ADDRESS: *8882 Terminal Rd Lorien, VA* INVOICE ADDRESS: *same*
 PHONE #: *804-389-7983* INVOICE PHONE #: *703-567-4346*
 FAX #: *N/A* EMAIL: *shryniak@tec1.pro*
 Is sample for compliance reporting? YES NO Regulatory State: Is sample from a chlorinated supply? YES NO PWS I.D. #:
 SAMPLER NAME (PRINT): *David C. Dudley* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: Circle 10 5 Days or Day ~~Days~~

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop	Time Preserved	Matrix (See Codes)	Number of Containers	QC Data Package	LAB USE ONLY	Therm ID:	COOLER TEMP	Received on ice?
	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME	Level III	Level IV	Y / N	Y / N	°C	Y / N
1) <i>D. Christoff</i>	<input checked="" type="checkbox"/>			<i>12-23-23</i>	<i>4:15p</i>	<i>5pm</i>	<i>5pm</i>	<i>5pm</i>	<i>GH</i>	<i>4</i>	<input checked="" type="checkbox"/>	<i>336</i>	<i>336</i>	<i>5.0</i>	<input checked="" type="checkbox"/>
2)															
3) <i>E. Wh: Han</i>	<input checked="" type="checkbox"/>			<i>12-17-23</i>	<i>3:55p</i>	<i>5pm</i>	<i>5pm</i>	<i>5pm</i>	<i>GH</i>	<i>4</i>	<input checked="" type="checkbox"/>				
4)															
5) <i>Trip Blank</i>															
6)															
7)															
8)															
9)															
10)															

RELINQUISHED: *[Signature]* DATE / TIME: *12/14/23 11:15* RECEIVED: *[Signature]* DATE / TIME: *12/14/23 11:15*
 RE-TESTED: *[Signature]* DATE / TIME: *12/14/23 1:33* RECEIVED: *[Signature]* DATE / TIME: *12/14/23 1:33*
 RE-TESTED: *[Signature]* DATE / TIME: *12/14/23 1:33* RECEIVED: *[Signature]* DATE / TIME: *12/14/23 1:33*

TEC-Springfield
Halstead
23L0862

Recd: 12/14/2023 Due: 12/19/2023



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Final Report

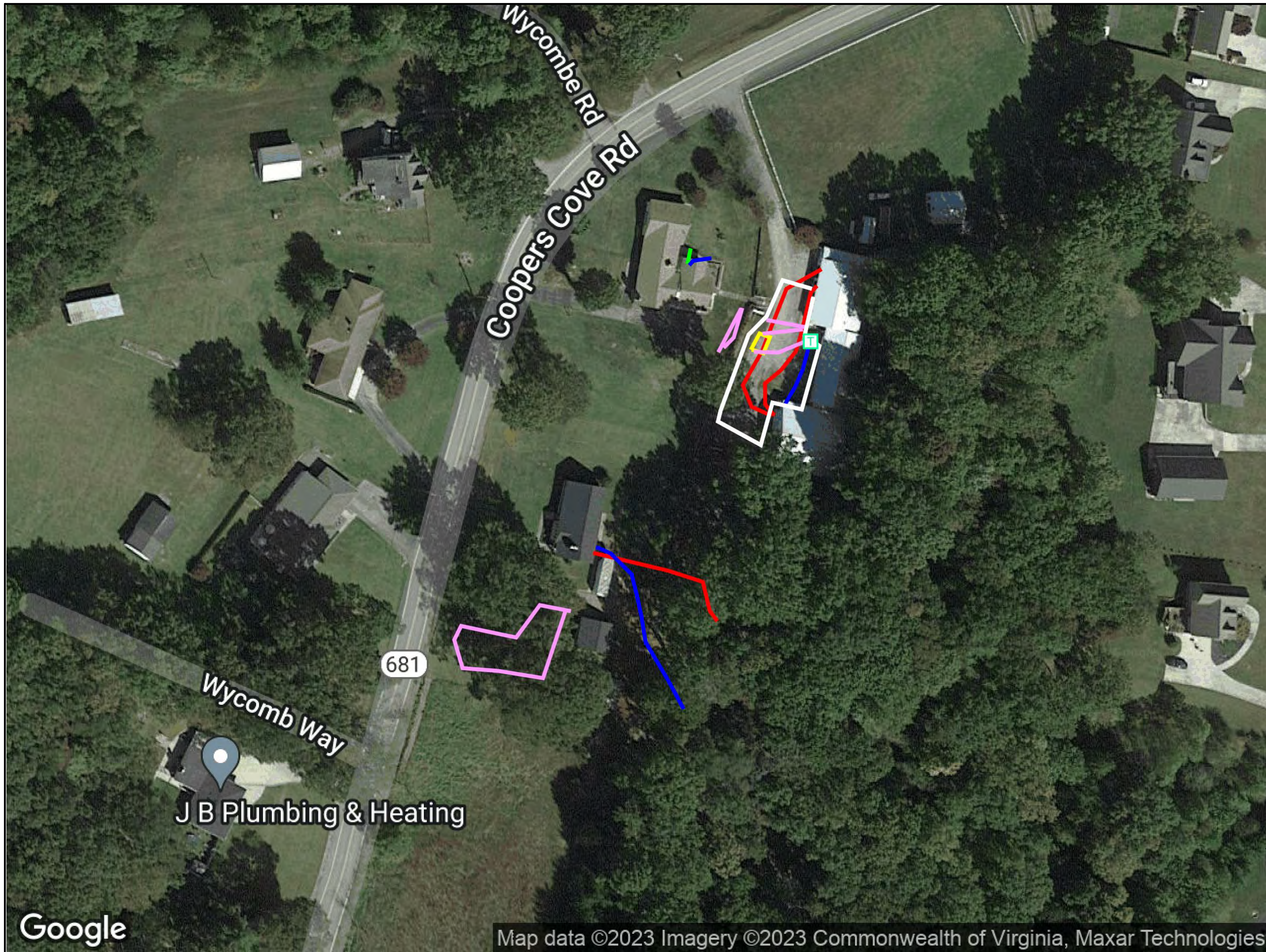
Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 19, 2023 16:58
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	5.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes



Appendix J
GPRS Utility Map

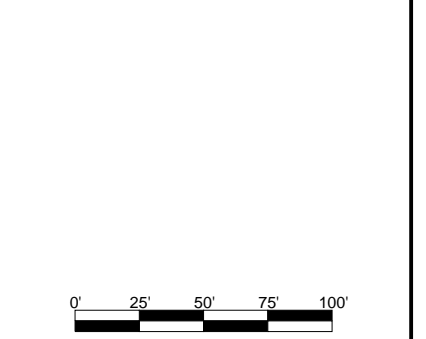


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6. PRIVATE UTILITY LOCATING IS NEVER A REPLACEMENT FOR ONE CALL/811 SERVICES. STATE LAW REQUIRES 811 TO BE CALLED PRIOR TO ANY AND ALL EXCAVATION ACTIVITIES.

LEGEND

—	ELECTRICAL
—	FUEL/GAS/OIL
—	SANITARY
—	STORM
—	UNKNOWN
—	WATER
.....	SCAN LIMIT



811 Know what's below. Call before you dig.

GPRS IS NOT AFFILIATED WITH 811 BUT DOES RECOMMEND THAT THE SERVICE IS USED ON EVERY PROJECT IN ADDITION TO OUR OWN. SEE NOTE #6 ABOVE.

FOR INFORMATION ONLY

GPRS FINDINGS MAP

PREPARED FOR:
TOTAL ENVIRONMENTAL CONCEPTS INC

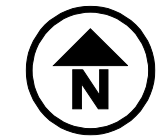
LOCATION:
640 COOPERS COVE ROAD, HARDY, VIR
1640 COOPERS COVE ROAD
HARDY, VA

PROJECT MANAGER:
ROBERT BRAUN
ROBERT.BRAUN@GPRSINC.COM

DATE	2023 DEC 18		
DRAWING NO.	1	REV.	0

Google

Map data ©2023 Imagery ©2023 Commonwealth of Virginia, Maxar Technologies



AIR_COMPRESSOR	ELEC_BOX	FUEL_AST	MISC_CONTINUES	STEAM_CONTINUES	UNKN_CONTINUES
AIR_CONTINUES	ELEC_CABINET	FUEL_CONTINUES	MISC_DEPTH	STEAM_EOI	UNKN_EOI
AIR_EOI	ELEC_CONTINUES	FUEL_EOI	MISC_EOI	STEAM_MANHOLE	UNKN_MANHOLE
AIR_MANHOLE	ELEC_EOI	FUEL_MANHOLE	MISC_MANHOLE	STEAM_VALVE	UNKN_MISC
AIR_MISC	ELEC_EQUIPMENT	FUEL_MISC	MISC_POINT	STRM_CATCHBASINROUND	UNKN_VALVE
AIR_PUMP	ELEC_LANDSCAPELIGHT	FUEL_PUMP	MISC_VALVE	STRM_CATCHBASINSQUARE	WTR_BACKFLOWPREVENTOR
AIR_RISER	ELEC_MANHOLE	FUEL_RISER	OIL_CONTINUES	STRM_CLEANOUT	WTR_CONTINUES
CHEM_AST	ELEC_METER	FUEL_UST	OIL_EOI	STRM_CONTINUES	WTR_EOI
CHEM_CONTINUES	ELEC_MISC	FUEL_VALVE	OIL_MANHOLE	STRM_ENDPIPE	WTR_HYDRANT
CHEM_EOI	ELEC_PANEL	FUEL_VAULT	OIL_MISC	STRM_EOI	WTR_MANHOLE
CHEM_MANHOLE	ELEC_POWERPOLE	FUEL_VENT	OIL_PUMP	STRM_LIFTSTATION	WTR_METER
CHEM_MISC	ELEC_SIGN	GAS_AST	OIL_RISER	STRM_MANHOLE	WTR_MISC
CHEM_PUMP	ELEC_SITELIGHT	GAS_CONTINUES	OIL_TANK	STRM_MISC	WTR_POSTINDICATORVALVE
CHEM_TANK	ELEC_TRANSFORMER	GAS_EOI	OIL_UST	STRM_ROOFDRAIN	WTR_RISER
CHEM_VALVE	ELEC_UTILITYPOLE	GAS_MANHOLE	OIL_VALVE	STRM_TRENCHDRAIN	WTR_VALVE
COMM_BOX	ELEC_VAULT	GAS_METER	OIL_VAULT	STRM_UST	WTR_WELLHEAD
COMM_CAMERA	FIRE_BACKFLOWPREVENTOR	GAS_MISC	OIL_VENT	STRM_VAULT	BUILDING CORNER
COMM_CONTINUES	FIRE_CONTINUES	GAS_PUMP	SAN_CLEANOUT	STRM_VENT	FLAGPOLE
COMM_EOI	FIRE_EOI	GAS_RISER	SAN_CONTINUES	STRM_YARDBASIN	GRAVE
COMM_MANHOLE	FIRE_HYDRANT	GAS_UST	SAN_EOI	TRAF_BOX	GRAVE
COMM_MISC	FIRE_MANHOLE	GAS_VALVE	SAN_GREASETRAP	TRAF_CABINET	HEADSTONE NO GRAVE
COMM_PEDESTAL	FIRE_METER	GAS_VAULT	SAN_INVERT	TRAF_CONTINUES	MAILBOX
COMM_POLE	FIRE_MISC	GAS_VENT	SAN_LIFTSTATION	TRAF_EOI	POST
COMM_VAULT	FIRE_POSTINDICATORVALVE	IRR_BACKFLOWPREVENTOR	SAN_MANHOLE	TRAF_MANHOLE	PROPOSED BY OTHERS
	FIRE_RISER	IRR_CONTINUES	SAN_MARKER	TRAF_MISC	SATELLITE
	FIRE_VALVE	IRR_CONTROL VALVE	SAN_MISC	TRAF_PARKINGMETER	SIGN
		IRR_EOI	SAN_SEPTICTANK	TRAF_POLE	SOIL BORING MARKER
		IRR_MISC	SAN_VAULT	TRAF_SIGN	
		IRR_RISER	SAN_VENT	TRAF_SIGNAL	
		IRR_SPRINKLER		TRAF_STREETLIGHT	
				TREE_CONIFEROUS	
				TREE_DECIDUOUS	

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LEGEND

- ELECTRICAL
- FUEL/GAS/OIL
- SANITARY
- STORM
- UNKNOWN
- WATER
- SCAN LIMIT



Know what's below. Call before you dig.

GPRS IS NOT AFFILIATED WITH 811 BUT DOES RECOMMEND THAT THE SERVICE IS USED ON EVERY PROJECT IN ADDITION TO OUR OWN. SEE NOTE #6 ABOVE.

FOR INFORMATION ONLY

GPRS FINDINGS MAP

PREPARED FOR: TOTAL ENVIRONMENTAL CONCEPTS INC

LOCATION: 1640 COOPERS COVE ROAD, HARDY, VIR
1640 COOPERS COVE ROAD
HARDY, VA

PROJECT MANAGER: ROBERT BRAUN
ROBERT.BRAUN@GPRSINC.COM

DATE	2023 DEC 18		
DRAWING NO.	2	REV.	0



Appendix K

Laboratory Analytical Report (12/15/2023)



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 23L0996

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove

Date Received: December 18, 2023 9:30

Date Issued: December 21, 2023 16:24

Project Number: 4260155-001

Purchase Order: 4260155-001

Enclosed are the results of analyses for samples received by the laboratory on 12/18/2023 09:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L0996

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Post CFU 1556	23L0996-01	Ground Water	12/15/2023 10:00	12/18/2023 09:30
1653 Coopers Cove	23L0996-02	Ground Water	12/15/2023 12:45	12/18/2023 09:30
17 Valley View	23L0996-03	Ground Water	12/15/2023 14:30	12/18/2023 09:30
1326 Coopers Cove	23L0996-04	Ground Water	12/15/2023 14:50	12/18/2023 09:30
Walter's Greenhouse	23L0996-05	Ground Water	12/15/2023 14:00	12/18/2023 09:30
SS Valley View	23L0996-06	Ground Water	12/15/2023 15:00	12/18/2023 09:30
Trip Blank	23L0996-07	Ground Water	12/12/2023 12:00	12/18/2023 09:30



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:24	12/18/23 19:24	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/18/23 19:24	12/18/23 19:24	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:24	12/18/23 19:24	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:24	12/18/23 19:24	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/18/23 19:24	12/18/23 19:24	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:24	12/18/23 19:24	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/18/23 19:24	12/18/23 19:24	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:24	12/18/23 19:24	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:24	12/18/23 19:24	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/18/23 19:24	12/18/23 19:24	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	93.3 %		70-120		12/18/23 19:24	12/18/23 19:24	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	94.1 %		75-120		12/18/23 19:24	12/18/23 19:24	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	108 %		70-130		12/18/23 19:24	12/18/23 19:24	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	96.5 %		70-130		12/18/23 19:24	12/18/23 19:24	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556	Laboratory Sample ID: 23L0996-01
Grab Date/Time: 12/15/2023 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 22:11	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:11	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/19/23 22:11	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:11	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Post CFU 1556 Laboratory Sample ID: 23L0996-01
 Grab Date/Time: 12/15/2023 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 22:11	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:11	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	88.9 %		5-136		12/19/23 09:30	12/19/23 22:11	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	71.8 %		9-117		12/19/23 09:30	12/19/23 22:11	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	38.2 %		5-60		12/19/23 09:30	12/19/23 22:11	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	78.3 %		5-151		12/19/23 09:30	12/19/23 22:11	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	29.4 %		5-60		12/19/23 09:30	12/19/23 22:11	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	79.4 %		5-141		12/19/23 09:30	12/19/23 22:11	BMS



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Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove

Laboratory Sample ID: 23L0996-02

Grab Date/Time: 12/15/2023 12:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:50	12/18/23 19:50	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:50	12/18/23 19:50	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/18/23 19:50	12/18/23 19:50	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove Laboratory Sample ID: 23L0996-02
 Grab Date/Time: 12/15/2023 12:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L	5.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Acetone	02	SW8260D	<10.0 ug/L	10.0	1	12/18/23 19:50	12/18/23 19:50	RJB	
Benzene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Bromobenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Bromochloromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Bromodichloromethane	02	SW8260D	<0.50 ug/L	0.50	1	12/18/23 19:50	12/18/23 19:50	RJB	
Bromoform	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Bromomethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Carbon disulfide	02	SW8260D	<10.0 ug/L	10.0	1	12/18/23 19:50	12/18/23 19:50	RJB	
Carbon tetrachloride	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Chlorobenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Chloroethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Chloroform	02	SW8260D	<0.50 ug/L	0.50	1	12/18/23 19:50	12/18/23 19:50	RJB	
Chloromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Dibromochloromethane	02	SW8260D	<0.50 ug/L	0.50	1	12/18/23 19:50	12/18/23 19:50	RJB	
Dibromomethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L	5.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Ethylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L	0.80	1	12/18/23 19:50	12/18/23 19:50	RJB	
Iodomethane	02	SW8260D	<10.0 ug/L	10.0	1	12/18/23 19:50	12/18/23 19:50	RJB	
Isopropylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	12/18/23 19:50	12/18/23 19:50	RJB	
m+p-Xylenes	02	SW8260D	<2.00 ug/L	2.00	1	12/18/23 19:50	12/18/23 19:50	RJB	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove Laboratory Sample ID: 23L0996-02
 Grab Date/Time: 12/15/2023 12:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	28.6 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/18/23 19:50	12/18/23 19:50	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/18/23 19:50	12/18/23 19:50	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/18/23 19:50	12/18/23 19:50	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	107 %		70-120		12/18/23 19:50	12/18/23 19:50	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	96.9 %		75-120		12/18/23 19:50	12/18/23 19:50	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	112 %		70-130		12/18/23 19:50	12/18/23 19:50	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	99.7 %		70-130		12/18/23 19:50	12/18/23 19:50	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove Laboratory Sample ID: 23L0996-02
 Grab Date/Time: 12/15/2023 12:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 22:40	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove

Laboratory Sample ID: 23L0996-02

Grab Date/Time: 12/15/2023 12:45

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove Laboratory Sample ID: 23L0996-02
 Grab Date/Time: 12/15/2023 12:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:40	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/19/23 22:40	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 22:40	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1653 Coopers Cove	Laboratory Sample ID: 23L0996-02
Grab Date/Time: 12/15/2023 12:45	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 22:40	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 22:40	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	65.5 %		5-136		12/19/23 09:30	12/19/23 22:40	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	77.7 %		9-117		12/19/23 09:30	12/19/23 22:40	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	53.8 %		5-60		12/19/23 09:30	12/19/23 22:40	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	80.1 %		5-151		12/19/23 09:30	12/19/23 22:40	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	29.0 %		5-60		12/19/23 09:30	12/19/23 22:40	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	79.1 %		5-141		12/19/23 09:30	12/19/23 22:40	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:16	12/18/23 20:16	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:16	12/18/23 20:16	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:16	12/18/23 20:16	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:16	12/18/23 20:16	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Chloroform	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	12/18/23 20:16	12/18/23 20:16	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:16	12/18/23 20:16	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	12/18/23 20:16	12/18/23 20:16	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:16	12/18/23 20:16	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:16	12/18/23 20:16	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	12/18/23 20:16	12/18/23 20:16	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	103 %		70-120		12/18/23 20:16	12/18/23 20:16	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	97.3 %		75-120		12/18/23 20:16	12/18/23 20:16	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	105 %		70-130		12/18/23 20:16	12/18/23 20:16	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	98.6 %		70-130		12/18/23 20:16	12/18/23 20:16	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 21, 2023 16:24
		Project Number:	4260155-001
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1,2-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1,2-Diphenylhydrazine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1,3-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1,3-Dinitrobenzene	03	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 23:10	BMS
1,4-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
1-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4,5-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4,6-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4-Dimethylphenol	03	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4-Dinitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,4-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,6-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,6-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Chloronaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Chlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Methylnaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2-Nitrophenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
3-Methylcholanthrene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
3-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Aminobiphenyl	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Chloroaniline	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
4-Nitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Acenaphthene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Acenaphthylene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Acetophenone	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Aniline	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzidine	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzo (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzo (a) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzo (b) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzo (g,h,i) perylene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzo (k) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzoic acid	03	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Benzyl alcohol	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Chrysene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Dibenz (a,h) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Dibenz (a,j) acridine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Dibenzofuran	03	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:10	BMS
Diethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Dimethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Di-n-butyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Di-n-octyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Diphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Ethyl methanesulfonate	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Fluorene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Hexachlorobenzene	03	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/19/23 23:10	BMS
Hexachlorobutadiene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Hexachlorocyclopentadiene	03	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Hexachloroethane	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Isophorone	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Methyl methanesulfonate	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Naphthalene	03	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:10	BMS
Nitrobenzene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
n-Nitrosodimethylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 17 Valley View

Laboratory Sample ID: 23L0996-03

Grab Date/Time: 12/15/2023 14:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
n-Nitrosopiperidine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
o+m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
o-Cresol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 23:10	BMS
p-Chloro-m-cresol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Pentachlorophenol	03	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Phenacetin	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Phenanthrene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Phenol	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Pronamide	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Pyrene	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Pyridine	03	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:10	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	87.3 %		5-136		12/19/23 09:30	12/19/23 23:10	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	80.6 %		9-117		12/19/23 09:30	12/19/23 23:10	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	87.4 %	S	5-60		12/19/23 09:30	12/19/23 23:10	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	73.4 %		5-151		12/19/23 09:30	12/19/23 23:10	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	25.6 %		5-60		12/19/23 09:30	12/19/23 23:10	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	73.1 %		5-141		12/19/23 09:30	12/19/23 23:10	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove

Laboratory Sample ID: 23L0996-04

Grab Date/Time: 12/15/2023 14:50

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:41	12/18/23 20:41	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:41	12/18/23 20:41	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove Laboratory Sample ID: 23L0996-04
 Grab Date/Time: 12/15/2023 14:50
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Acetone	04	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:41	12/18/23 20:41	RJB
Benzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Bromobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Bromochloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Bromodichloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
Bromoform	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Bromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Carbon disulfide	04	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:41	12/18/23 20:41	RJB
Carbon tetrachloride	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Chlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Chloroethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Chloroform	04	SW8260D	0.90 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
Chloromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Dibromochloromethane	04	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
Dibromomethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L		5.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Ethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L		0.80	1	12/18/23 20:41	12/18/23 20:41	RJB
Iodomethane	04	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:41	12/18/23 20:41	RJB
Isopropylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
m+p-Xylenes	04	SW8260D	<2.00 ug/L		2.00	1	12/18/23 20:41	12/18/23 20:41	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 21, 2023 16:24
		Project Number:	4260155-001
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove	Laboratory Sample ID: 23L0996-04
Grab Date/Time: 12/15/2023 14:50	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	04	SW8260D	<4.00 ug/L		4.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Naphthalene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
o-Xylene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Styrene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Toluene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L		10.0	1	12/18/23 20:41	12/18/23 20:41	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L		0.50	1	12/18/23 20:41	12/18/23 20:41	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L		3.00	1	12/18/23 20:41	12/18/23 20:41	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	105 %		70-120		12/18/23 20:41	12/18/23 20:41	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	94.2 %		75-120		12/18/23 20:41	12/18/23 20:41	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	101 %		70-130		12/18/23 20:41	12/18/23 20:41	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	97.5 %		70-130		12/18/23 20:41	12/18/23 20:41	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove

Laboratory Sample ID: 23L0996-04

Grab Date/Time: 12/15/2023 14:50

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1,2-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1,2-Diphenylhydrazine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1,3-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1,3-Dinitrobenzene	04	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 23:39	BMS
1,4-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
1-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4,5-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4,6-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4-Dimethylphenol	04	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4-Dinitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,4-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,6-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,6-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Chloronaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Chlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Methylnaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2-Nitrophenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
3-Methylcholanthrene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
3-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove

Laboratory Sample ID: 23L0996-04

Grab Date/Time: 12/15/2023 14:50

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Aminobiphenyl	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Chloroaniline	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
4-Nitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Acenaphthene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Acenaphthylene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Acetophenone	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Aniline	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzidine	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzo (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzo (a) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzo (b) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzo (g,h,i) perylene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzo (k) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzoic acid	04	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Benzyl alcohol	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove	Laboratory Sample ID: 23L0996-04
Grab Date/Time: 12/15/2023 14:50	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Chrysene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Dibenz (a,h) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Dibenz (a,j) acridine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Dibenzofuran	04	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:39	BMS
Diethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Dimethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Di-n-butyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Di-n-octyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Diphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Ethyl methanesulfonate	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Fluorene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Hexachlorobenzene	04	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/19/23 23:39	BMS
Hexachlorobutadiene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Hexachlorocyclopentadiene	04	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Hexachloroethane	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Isophorone	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Methyl methanesulfonate	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Naphthalene	04	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/19/23 23:39	BMS
Nitrobenzene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
n-Nitrosodimethylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. 1326 Coopers Cove	Laboratory Sample ID: 23L0996-04
Grab Date/Time: 12/15/2023 14:50	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
n-Nitrosopiperidine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
o+m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
o-Cresol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/19/23 23:39	BMS
p-Chloro-m-cresol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Pentachlorophenol	04	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Phenacetin	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Phenanthrene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Phenol	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Pronamide	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Pyrene	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Pyridine	04	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/19/23 23:39	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	92.0 %		5-136		12/19/23 09:30	12/19/23 23:39	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	44.1 %		9-117		12/19/23 09:30	12/19/23 23:39	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	45.6 %		5-60		12/19/23 09:30	12/19/23 23:39	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	43.0 %		5-151		12/19/23 09:30	12/19/23 23:39	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	23.4 %		5-60		12/19/23 09:30	12/19/23 23:39	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	85.2 %		5-141		12/19/23 09:30	12/19/23 23:39	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse

Laboratory Sample ID: 23L0996-05

Grab Date/Time: 12/15/2023 14:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:07	12/18/23 21:07	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/18/23 21:07	12/18/23 21:07	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse Laboratory Sample ID: 23L0996-05
 Grab Date/Time: 12/15/2023 14:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L		5.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Acetone	05	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:07	12/18/23 21:07	RJB
Benzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Bromobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Bromochloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Bromodichloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
Bromoform	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Bromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Carbon disulfide	05	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:07	12/18/23 21:07	RJB
Carbon tetrachloride	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Chlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Chloroethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Chloroform	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
Chloromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Dibromochloromethane	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
Dibromomethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L		5.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Ethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L		0.80	1	12/18/23 21:07	12/18/23 21:07	RJB
Iodomethane	05	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:07	12/18/23 21:07	RJB
Isopropylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
m+p-Xylenes	05	SW8260D	<2.00 ug/L		2.00	1	12/18/23 21:07	12/18/23 21:07	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse Laboratory Sample ID: 23L0996-05
 Grab Date/Time: 12/15/2023 14:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:07	12/18/23 21:07	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:07	12/18/23 21:07	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	12/18/23 21:07	12/18/23 21:07	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	109 %		70-120		12/18/23 21:07	12/18/23 21:07	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	95.1 %		75-120		12/18/23 21:07	12/18/23 21:07	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	104 %		70-130		12/18/23 21:07	12/18/23 21:07	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	98.9 %		70-130		12/18/23 21:07	12/18/23 21:07	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse

Laboratory Sample ID: 23L0996-05

Grab Date/Time: 12/15/2023 14:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1,2,4-Trichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1,2-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1,2-Diphenylhydrazine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1,3-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1,3-Dinitrobenzene	05	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/20/23 00:09	BMS
1,4-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
1-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,3,4,6-Tetrachlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4,5-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4,6-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4-Dimethylphenol	05	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4-Dinitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,4-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,6-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,6-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Chloronaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Chlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Methylnaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2-Nitrophenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
3,3'-Dichlorobenzidine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
3-Methylcholanthrene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
3-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse Laboratory Sample ID: 23L0996-05
 Grab Date/Time: 12/15/2023 14:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Aminobiphenyl	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Bromophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Chloroaniline	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Chlorophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
4-Nitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
7,12-Dimethylbenz (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Acenaphthene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Acenaphthylene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Acetophenone	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Aniline	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzidine	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzo (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzo (a) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzo (b) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzo (g,h,i) perylene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzo (k) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzoic acid	05	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Benzyl alcohol	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
bis (2-Chloroethoxy) methane	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
bis (2-Chloroethyl) ether	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
2,2'-Oxybis (1-chloropropane)	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
bis (2-Ethylhexyl) phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse

Laboratory Sample ID: 23L0996-05

Grab Date/Time: 12/15/2023 14:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Chrysene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Dibenz (a,h) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Dibenz (a,j) acridine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Dibenzofuran	05	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:09	BMS
Diethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Dimethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Di-n-butyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Di-n-octyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Diphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Ethyl methanesulfonate	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Fluorene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Hexachlorobenzene	05	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/20/23 00:09	BMS
Hexachlorobutadiene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Hexachlorocyclopentadiene	05	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Hexachloroethane	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Indeno (1,2,3-cd) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Isophorone	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Methyl methanesulfonate	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Naphthalene	05	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:09	BMS
Nitrobenzene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
n-Nitrosodimethylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
n-Nitrosodi-n-butylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
n-Nitrosodi-n-propylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Walter's Greenhouse Laboratory Sample ID: 23L0996-05
 Grab Date/Time: 12/15/2023 14:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
n-Nitrosopiperidine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
o+m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
o-Cresol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
p-(Dimethylamino) azobenzene	05	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/20/23 00:09	BMS
p-Chloro-m-cresol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Pentachloronitrobenzene (quintozene)	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Pentachlorophenol	05	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Phenacetin	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Phenanthrene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Phenol	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Pronamide	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Pyrene	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Pyridine	05	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:09	BMS
Surr: 2,4,6-Tribromophenol (Surr)	05	SW8270E	87.8 %		5-136		12/19/23 09:30	12/20/23 00:09	BMS
Surr: 2-Fluorobiphenyl (Surr)	05	SW8270E	137 %	S	9-117		12/19/23 09:30	12/20/23 00:09	BMS
Surr: 2-Fluorophenol (Surr)	05	SW8270E	46.5 %		5-60		12/19/23 09:30	12/20/23 00:09	BMS
Surr: Nitrobenzene-d5 (Surr)	05	SW8270E	73.8 %		5-151		12/19/23 09:30	12/20/23 00:09	BMS
Surr: Phenol-d5 (Surr)	05	SW8270E	23.5 %		5-60		12/19/23 09:30	12/20/23 00:09	BMS
Surr: p-Terphenyl-d14 (Surr)	05	SW8270E	81.9 %		5-141		12/19/23 09:30	12/20/23 00:09	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View

Laboratory Sample ID: 23L0996-06

Grab Date/Time: 12/15/2023 15:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1,1-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1,2,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1,2-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,1-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2,3-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2,3-Trichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2,4-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2,4-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2-Dibromo-3-chloropropane (DBCP)	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2-Dibromoethane (EDB)	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2-Dichlorobenzene	06	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,2-Dichloropropane	06	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:32	12/18/23 21:32	RJB
1,3,5-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,3-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,3-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
1,4-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
2,2-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
2-Butanone (MEK)	06	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:32	12/18/23 21:32	RJB
2-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
2-Hexanone (MBK)	06	SW8260D	<5.00 ug/L		5.00	1	12/18/23 21:32	12/18/23 21:32	RJB
4-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View	Laboratory Sample ID: 23L0996-06
Grab Date/Time: 12/15/2023 15:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
4-Methyl-2-pentanone (MIBK)	06	SW8260D	<5.00 ug/L	5.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Acetone	06	SW8260D	<10.0 ug/L	10.0	1	12/18/23 21:32	12/18/23 21:32	RJB	
Benzene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Bromobenzene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Bromochloromethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Bromodichloromethane	06	SW8260D	<0.50 ug/L	0.50	1	12/18/23 21:32	12/18/23 21:32	RJB	
Bromoform	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Bromomethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Carbon disulfide	06	SW8260D	<10.0 ug/L	10.0	1	12/18/23 21:32	12/18/23 21:32	RJB	
Carbon tetrachloride	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Chlorobenzene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Chloroethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Chloroform	06	SW8260D	<0.50 ug/L	0.50	1	12/18/23 21:32	12/18/23 21:32	RJB	
Chloromethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
cis-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
cis-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Dibromochloromethane	06	SW8260D	<0.50 ug/L	0.50	1	12/18/23 21:32	12/18/23 21:32	RJB	
Dibromomethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Dichlorodifluoromethane	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Di-isopropyl ether (DIPE)	06	SW8260D	<5.00 ug/L	5.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Ethylbenzene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
Hexachlorobutadiene	06	SW8260D	<0.80 ug/L	0.80	1	12/18/23 21:32	12/18/23 21:32	RJB	
Iodomethane	06	SW8260D	<10.0 ug/L	10.0	1	12/18/23 21:32	12/18/23 21:32	RJB	
Isopropylbenzene	06	SW8260D	<1.00 ug/L	1.00	1	12/18/23 21:32	12/18/23 21:32	RJB	
m+p-Xylenes	06	SW8260D	<2.00 ug/L	2.00	1	12/18/23 21:32	12/18/23 21:32	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 21, 2023 16:24
		Project Number:	4260155-001
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove		

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View	Laboratory Sample ID: 23L0996-06
Grab Date/Time: 12/15/2023 15:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	06	SW8260D	<4.00 ug/L		4.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Methyl-t-butyl ether (MTBE)	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Naphthalene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
n-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
n-Propylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
o-Xylene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
sec-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Styrene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
tert-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Tetrachloroethylene (PCE)	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Toluene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
trans-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
trans-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Trichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Trichlorofluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Vinyl acetate	06	SW8260D	<10.0 ug/L		10.0	1	12/18/23 21:32	12/18/23 21:32	RJB
Vinyl chloride	06	SW8260D	<0.50 ug/L		0.50	1	12/18/23 21:32	12/18/23 21:32	RJB
Xylenes, Total	06	SW8260D	<3.00 ug/L		3.00	1	12/18/23 21:32	12/18/23 21:32	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	06	SW8260D	104 %		70-120		12/18/23 21:32	12/18/23 21:32	RJB
Surr: 4-Bromofluorobenzene (Surr)	06	SW8260D	94.2 %		75-120		12/18/23 21:32	12/18/23 21:32	RJB
Surr: Dibromofluoromethane (Surr)	06	SW8260D	110 %		70-130		12/18/23 21:32	12/18/23 21:32	RJB
Surr: Toluene-d8 (Surr)	06	SW8260D	101 %		70-130		12/18/23 21:32	12/18/23 21:32	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View

Laboratory Sample ID: 23L0996-06

Grab Date/Time: 12/15/2023 15:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1,2,4-Trichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1,2-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1,2-Diphenylhydrazine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1,3-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1,3-Dinitrobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/20/23 00:38	BMS
1,4-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
1-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,3,4,6-Tetrachlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4,5-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4,6-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4-Dimethylphenol	06	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4-Dinitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,4-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,6-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,6-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Chloronaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Chlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Methylnaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2-Nitrophenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
3,3'-Dichlorobenzidine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
3-Methylcholanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
3-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View

Laboratory Sample ID: 23L0996-06

Grab Date/Time: 12/15/2023 15:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Aminobiphenyl	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Bromophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Chloroaniline	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Chlorophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
4-Nitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
7,12-Dimethylbenz (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Acenaphthene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Acenaphthylene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Acetophenone	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Aniline	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzidine	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzo (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzo (a) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzo (b) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzo (g,h,i) perylene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzo (k) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzoic acid	06	SW8270E	<50.0 ug/L		50.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Benzyl alcohol	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
bis (2-Chloroethoxy) methane	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
bis (2-Chloroethyl) ether	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
2,2'-Oxybis (1-chloropropane)	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
bis (2-Ethylhexyl) phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View

Laboratory Sample ID: 23L0996-06

Grab Date/Time: 12/15/2023 15:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Chrysene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Dibenz (a,h) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Dibenz (a,j) acridine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Dibenzofuran	06	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:38	BMS
Diethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Dimethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Di-n-butyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Di-n-octyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Diphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Ethyl methanesulfonate	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Fluorene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Hexachlorobenzene	06	SW8270E	<1.00 ug/L		1.00	1	12/19/23 09:30	12/20/23 00:38	BMS
Hexachlorobutadiene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Hexachlorocyclopentadiene	06	SW8270E	<10.0 ug/L	C	10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Hexachloroethane	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Indeno (1,2,3-cd) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Isophorone	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Methyl methanesulfonate	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Naphthalene	06	SW8270E	<5.00 ug/L		5.00	1	12/19/23 09:30	12/20/23 00:38	BMS
Nitrobenzene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
n-Nitrosodimethylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
n-Nitrosodi-n-butylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
n-Nitrosodi-n-propylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. SS Valley View

Laboratory Sample ID: 23L0996-06

Grab Date/Time: 12/15/2023 15:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
n-Nitrosopiperidine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
o+m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
o-Cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
p-(Dimethylamino) azobenzene	06	SW8270E	<2.50 ug/L		2.50	1	12/19/23 09:30	12/20/23 00:38	BMS
p-Chloro-m-cresol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Pentachloronitrobenzene (quintozene)	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Pentachlorophenol	06	SW8270E	<20.0 ug/L		20.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Phenacetin	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Phenanthrene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Phenol	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Pronamide	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Pyrene	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Pyridine	06	SW8270E	<10.0 ug/L		10.0	1	12/19/23 09:30	12/20/23 00:38	BMS
Surr: 2,4,6-Tribromophenol (Surr)	06	SW8270E	88.5 %		5-136		12/19/23 09:30	12/20/23 00:38	BMS
Surr: 2-Fluorobiphenyl (Surr)	06	SW8270E	74.2 %		9-117		12/19/23 09:30	12/20/23 00:38	BMS
Surr: 2-Fluorophenol (Surr)	06	SW8270E	44.9 %		5-60		12/19/23 09:30	12/20/23 00:38	BMS
Surr: Nitrobenzene-d5 (Surr)	06	SW8270E	79.8 %		5-151		12/19/23 09:30	12/20/23 00:38	BMS
Surr: Phenol-d5 (Surr)	06	SW8270E	28.9 %		5-60		12/19/23 09:30	12/20/23 00:38	BMS
Surr: p-Terphenyl-d14 (Surr)	06	SW8270E	72.0 %		5-141		12/19/23 09:30	12/20/23 00:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23L0996-07
Grab Date/Time: 12/12/2023 12:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1,1-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1,2,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1,2-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,1-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2,3-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2,3-Trichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2,4-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2,4-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2-Dibromo-3-chloropropane (DBCP)	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2-Dibromoethane (EDB)	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2-Dichlorobenzene	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,2-Dichloropropane	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
1,3,5-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,3-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,3-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
1,4-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
2,2-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
2-Butanone (MEK)	07	SW8260D	<10.0 ug/L		10.0	1	12/18/23 16:51	12/18/23 16:51	RJB
2-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
2-Hexanone (MBK)	07	SW8260D	<5.00 ug/L		5.00	1	12/18/23 16:51	12/18/23 16:51	RJB
4-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0996-07
 Grab Date/Time: 12/12/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
4-Methyl-2-pentanone (MIBK)	07	SW8260D	<5.00 ug/L		5.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Acetone	07	SW8260D	<10.0 ug/L		10.0	1	12/18/23 16:51	12/18/23 16:51	RJB
Benzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Bromobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Bromochloromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Bromodichloromethane	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
Bromoform	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Bromomethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Carbon disulfide	07	SW8260D	<10.0 ug/L		10.0	1	12/18/23 16:51	12/18/23 16:51	RJB
Carbon tetrachloride	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Chlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Chloroethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Chloroform	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
Chloromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
cis-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
cis-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Dibromochloromethane	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
Dibromomethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Dichlorodifluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Di-isopropyl ether (DIPE)	07	SW8260D	<5.00 ug/L		5.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Ethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Hexachlorobutadiene	07	SW8260D	<0.80 ug/L		0.80	1	12/18/23 16:51	12/18/23 16:51	RJB
Iodomethane	07	SW8260D	<10.0 ug/L		10.0	1	12/18/23 16:51	12/18/23 16:51	RJB
Isopropylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
m+p-Xylenes	07	SW8260D	<2.00 ug/L		2.00	1	12/18/23 16:51	12/18/23 16:51	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 23L0996

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L0996-07
 Grab Date/Time: 12/12/2023 12:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	07	SW8260D	<4.00 ug/L		4.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Methyl-t-butyl ether (MTBE)	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Naphthalene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
n-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
n-Propylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
o-Xylene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
sec-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Styrene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
tert-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Tetrachloroethylene (PCE)	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Toluene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
trans-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
trans-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Trichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Trichlorofluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Vinyl acetate	07	SW8260D	<10.0 ug/L		10.0	1	12/18/23 16:51	12/18/23 16:51	RJB
Vinyl chloride	07	SW8260D	<0.50 ug/L		0.50	1	12/18/23 16:51	12/18/23 16:51	RJB
Xylenes, Total	07	SW8260D	<3.00 ug/L		3.00	1	12/18/23 16:51	12/18/23 16:51	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	SW8260D	102 %		70-120		12/18/23 16:51	12/18/23 16:51	RJB
Surr: 4-Bromofluorobenzene (Surr)	07	SW8260D	96.2 %		75-120		12/18/23 16:51	12/18/23 16:51	RJB
Surr: Dibromofluoromethane (Surr)	07	SW8260D	91.7 %		70-130		12/18/23 16:51	12/18/23 16:51	RJB
Surr: Toluene-d8 (Surr)	07	SW8260D	100 %		70-130		12/18/23 16:51	12/18/23 16:51	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	December 21, 2023 16:24
	Lorton VA, 22079	Project Number:	4260155-001
Submitted To:	Shanna Hryvniak	Purchase Order:	4260155-001
Client Site I.D.:	Coopers Cove		

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23L0996-01	1010 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
23L0996-02	1030 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
23L0996-03	1070 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
23L0996-04	1010 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
23L0996-05	1050 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
23L0996-06	1050 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23L0996-01	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-02	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-03	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-04	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-05	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-06	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
23L0996-07	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL0774-BLK1	1000 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
BGL0774-BS1	1000 mL / 1.00 mL	SW8270E	BGL0774	SGL0818	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL0751-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
BGL0751-BS1	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
BGL0751-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250
BGL0751-MS1	5.00 mL / 5.00 mL	SW8260D	BGL0751	SGL0692	AL30250



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Blank (BGL0751-BLK1)

Prepared & Analyzed: 12/18/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Blank (BGL0751-BLK1)

Prepared & Analyzed: 12/18/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Blank (BGL0751-BLK1)

Prepared & Analyzed: 12/18/2023

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	51.3		ug/L	50.0		103	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.4		ug/L	50.0		94.7	75-120			
Surr: Dibromofluoromethane (Surr)	44.5		ug/L	50.0		89.0	70-130			
Surr: Toluene-d8 (Surr)	48.9		ug/L	50.0		97.8	70-130			

LCS (BGL0751-BS1)

Prepared & Analyzed: 12/18/2023

1,1,1,2-Tetrachloroethane	46.2 ug/L	0.4	ug/L	50.0	ug/L	92.4	80-130			
1,1,1-Trichloroethane	53.9 ug/L	1	ug/L	50.0	ug/L	108	65-130			
1,1,1,2,2-Tetrachloroethane	46.6 ug/L	0.4	ug/L	50.0	ug/L	93.2	65-130			
1,1,2-Trichloroethane	48.1 ug/L	1	ug/L	50.0	ug/L	96.2	75-125			
1,1-Dichloroethane	43.5 ug/L	1	ug/L	50.0	ug/L	87.1	70-135			
1,1-Dichloroethylene	48.7 ug/L	1	ug/L	50.0	ug/L	97.3	70-130			
1,1-Dichloropropene	54.1 ug/L	1	ug/L	50.0	ug/L	108	75-135			
1,2,3-Trichlorobenzene	50.6 ug/L	1	ug/L	50.0	ug/L	101	55-140			
1,2,3-Trichloropropane	46.6 ug/L	1	ug/L	50.0	ug/L	93.1	75-125			
1,2,4-Trichlorobenzene	49.4 ug/L	1	ug/L	50.0	ug/L	98.8	65-135			
1,2,4-Trimethylbenzene	56.0 ug/L	1	ug/L	50.0	ug/L	112	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	49.6 ug/L	1	ug/L	50.0	ug/L	99.2	50-130			
1,2-Dibromoethane (EDB)	46.0 ug/L	1	ug/L	50.0	ug/L	92.1	80-120			
1,2-Dichlorobenzene	49.1 ug/L	0.5	ug/L	50.0	ug/L	98.2	70-120			
1,2-Dichloroethane	42.9 ug/L	1	ug/L	50.0	ug/L	85.7	70-130			
1,2-Dichloropropane	51.9 ug/L	0.5	ug/L	50.0	ug/L	104	75-125			
1,3,5-Trimethylbenzene	55.4 ug/L	1	ug/L	50.0	ug/L	111	75-125			
1,3-Dichlorobenzene	48.8 ug/L	1	ug/L	50.0	ug/L	97.7	75-125			
1,3-Dichloropropane	47.3 ug/L	1	ug/L	50.0	ug/L	94.6	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

LCS (BGL0751-BS1)

Prepared & Analyzed: 12/18/2023

1,4-Dichlorobenzene	48.6 ug/L	1	ug/L	50.0	ug/L	97.2	75-125			
2,2-Dichloropropane	58.4 ug/L	1	ug/L	50.0	ug/L	117	70-135			
2-Butanone (MEK)	43.8 ug/L	10	ug/L	50.0	ug/L	87.6	30-150			
2-Chlorotoluene	47.2 ug/L	1	ug/L	50.0	ug/L	94.5	75-125			
2-Hexanone (MBK)	43.2 ug/L	5	ug/L	50.0	ug/L	86.5	55-130			
4-Chlorotoluene	51.0 ug/L	1	ug/L	50.0	ug/L	102	75-130			
4-Isopropyltoluene	60.0 ug/L	1	ug/L	50.0	ug/L	120	75-130			
4-Methyl-2-pentanone (MIBK)	44.6 ug/L	5	ug/L	50.0	ug/L	89.1	60-135			
Acetone	40.0 ug/L	10	ug/L	50.0	ug/L	80.0	40-140			
Benzene	49.9 ug/L	1	ug/L	50.0	ug/L	99.7	80-120			
Bromobenzene	47.1 ug/L	1	ug/L	50.0	ug/L	94.2	75-125			
Bromochloromethane	45.6 ug/L	1	ug/L	50.0	ug/L	91.2	65-130			
Bromodichloromethane	51.1 ug/L	0.5	ug/L	50.0	ug/L	102	75-120			
Bromoform	47.3 ug/L	1	ug/L	50.0	ug/L	94.7	70-130			
Bromomethane	45.2 ug/L	1	ug/L	50.0	ug/L	90.4	30-145			
Carbon disulfide	39.1 ug/L	10	ug/L	50.0	ug/L	78.2	35-160			
Carbon tetrachloride	55.0 ug/L	1	ug/L	50.0	ug/L	110	65-140			
Chlorobenzene	47.9 ug/L	1	ug/L	50.0	ug/L	95.7	80-120			
Chloroethane	48.6 ug/L	1	ug/L	50.0	ug/L	97.2	60-135			
Chloroform	45.3 ug/L	0.5	ug/L	50.0	ug/L	90.5	65-135			
Chloromethane	39.8 ug/L	1	ug/L	50.0	ug/L	79.7	40-125			
cis-1,2-Dichloroethylene	40.8 ug/L	1	ug/L	50.0	ug/L	81.6	70-125			
cis-1,3-Dichloropropene	52.6 ug/L	1	ug/L	50.0	ug/L	105	70-130			
Dibromochloromethane	49.9 ug/L	0.5	ug/L	50.0	ug/L	99.7	60-135			
Dibromomethane	51.8 ug/L	1	ug/L	50.0	ug/L	104	75-125			
Dichlorodifluoromethane	54.7 ug/L	1	ug/L	50.0	ug/L	109	30-155			
Ethylbenzene	53.8 ug/L	1	ug/L	50.0	ug/L	108	75-125			
Hexachlorobutadiene	55.1 ug/L	0.8	ug/L	50.0	ug/L	110	50-140			
Isopropylbenzene	49.4 ug/L	1	ug/L	50.0	ug/L	98.9	75-125			
m+p-Xylenes	98.0 ug/L	2	ug/L	100	ug/L	98.0	75-130			
Methylene chloride	41.0 ug/L	4	ug/L	50.0	ug/L	82.1	55-140			



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Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

LCS (BGL0751-BS1)

Prepared & Analyzed: 12/18/2023

Methyl-t-butyl ether (MTBE)	46.0 ug/L	1	ug/L	50.0	ug/L	91.9	65-125			
Naphthalene	55.1 ug/L	1	ug/L	50.0	ug/L	110	55-140			
n-Butylbenzene	59.6 ug/L	1	ug/L	50.0	ug/L	119	70-135			
n-Propylbenzene	53.6 ug/L	1	ug/L	50.0	ug/L	107	70-130			
o-Xylene	50.8 ug/L	1	ug/L	50.0	ug/L	102	80-120			
sec-Butylbenzene	58.7 ug/L	1	ug/L	50.0	ug/L	117	70-125			
Styrene	50.5 ug/L	1	ug/L	50.0	ug/L	101	65-135			
tert-Butylbenzene	57.8 ug/L	1	ug/L	50.0	ug/L	116	70-130			
Tetrachloroethylene (PCE)	53.0 ug/L	1	ug/L	50.0	ug/L	106	45-150			
Toluene	50.9 ug/L	1	ug/L	50.0	ug/L	102	75-120			
trans-1,2-Dichloroethylene	46.0 ug/L	1	ug/L	50.0	ug/L	91.9	60-140			
trans-1,3-Dichloropropene	56.8 ug/L	1	ug/L	50.0	ug/L	114	55-140			
Trichloroethylene	50.7 ug/L	1	ug/L	50.0	ug/L	101	70-125			
Trichlorofluoromethane	58.4 ug/L	1	ug/L	50.0	ug/L	117	60-145			
Vinyl chloride	54.3 ug/L	0.5	ug/L	50.0	ug/L	109	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	47.9		ug/L	50.0	ug/L	95.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.4		ug/L	50.0	ug/L	101	75-120			
Surr: Dibromofluoromethane (Surr)	45.6		ug/L	50.0	ug/L	91.1	70-130			
Surr: Toluene-d8 (Surr)	49.2		ug/L	50.0	ug/L	98.5	70-130			

Duplicate (BGL0751-DUP1)

Source: 23L1002-02

Prepared & Analyzed: 12/18/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloroethane	1.07 ug/L	1.00	ug/L	1.10	ug/L			2.76	30	
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Duplicate (BGL0751-DUP1)

Source: 23L1002-02

Prepared & Analyzed: 12/18/2023

1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Acetone	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Benzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromochloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromodichloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Bromoform	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Carbon disulfide	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroform	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Chloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,2-Dichloroethylene	3.24 ug/L	1.00	ug/L	3.26 ug/L				0.615	30	
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Certificate of Analysis

Final Report

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 Client Site I.D.: Coopers Cove

Date Issued: December 21, 2023 16:24
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 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Duplicate (BGL0751-DUP1)

Source: 23L1002-02

Prepared & Analyzed: 12/18/2023

Dibromochloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Dibromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Ethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L	<0.80 ug/L				NA	30	
Iodomethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Isopropylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
m+p-Xylenes	<2.00 ug/L	2.00	ug/L	<2.00 ug/L				NA	30	
Methylene chloride	<4.00 ug/L	4.00	ug/L	<4.00 ug/L				NA	30	
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Naphthalene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
n-Propylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
o-Xylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Styrene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Toluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Trichloroethylene	1.87 ug/L	1.00	ug/L	1.91 ug/L				2.12	30	
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Vinyl acetate	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Vinyl chloride	1.11 ug/L	0.50	ug/L	1.19 ug/L				6.96	30	
Xylenes, Total	<3.00 ug/L	3.00	ug/L	<3.00 ug/L				NA	30	
Tetrahydrofuran	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Surr: 1,2-Dichloroethane-d4 (Surr)	46.8		ug/L	50.0 ug/L		93.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.5		ug/L	50.0 ug/L		93.0	75-120			
Surr: Dibromofluoromethane (Surr)	54.2		ug/L	50.0 ug/L		108	70-130			



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Certificate of Analysis

Final Report

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	Lorton VA, 22079	Project Number:	4260155-001
Submitted To:	Shanna Hryvniak	Purchase Order:	4260155-001
Client Site I.D.:	Coopers Cove		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Duplicate (BGL0751-DUP1)

Source: 23L1002-02

Prepared & Analyzed: 12/18/2023

Surr: Toluene-d8 (Surr)	51.0	ug/L	50.0	ug/L	102	70-130
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Matrix Spike (BGL0751-MS1)

Source: 23L1002-01

Prepared & Analyzed: 12/18/2023

1,1,1,2-Tetrachloroethane	49.4 ug/L	0.4	ug/L	50.0	<0.4 ug/L	98.8	80-130
1,1,1-Trichloroethane	52.2 ug/L	1	ug/L	50.0	<1 ug/L	104	65-130
1,1,2,2-Tetrachloroethane	49.0 ug/L	0.4	ug/L	50.0	<0.4 ug/L	97.9	65-130
1,1,2-Trichloroethane	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	75-125
1,1-Dichloroethane	47.8 ug/L	1	ug/L	50.0	<1 ug/L	95.7	70-135
1,1-Dichloroethylene	48.7 ug/L	1	ug/L	50.0	<1 ug/L	97.3	50-145
1,1-Dichloropropene	53.5 ug/L	1	ug/L	50.0	<1 ug/L	107	75-135
1,2,3-Trichlorobenzene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	55-140
1,2,3-Trichloropropane	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.7	75-125
1,2,4-Trichlorobenzene	51.2 ug/L	1	ug/L	50.0	<1 ug/L	102	65-135
1,2,4-Trimethylbenzene	56.3 ug/L	1	ug/L	50.0	<1 ug/L	113	75-130
1,2-Dibromo-3-chloropropane (DBCP)	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	50-130
1,2-Dibromoethane (EDB)	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	80-120
1,2-Dichlorobenzene	49.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.6	70-120
1,2-Dichloroethane	40.9 ug/L	1	ug/L	50.0	<1 ug/L	81.8	70-130
1,2-Dichloropropane	51.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	104	75-125
1,3,5-Trimethylbenzene	53.5 ug/L	1	ug/L	50.0	<1 ug/L	107	75-124
1,3-Dichlorobenzene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125
1,3-Dichloropropane	48.0 ug/L	1	ug/L	50.0	<1 ug/L	96.1	75-125
1,4-Dichlorobenzene	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	75-125
2,2-Dichloropropane	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	70-135
2-Butanone (MEK)	45.1 ug/L	10	ug/L	50.0	<10 ug/L	90.1	30-150
2-Chlorotoluene	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.4	75-125
2-Hexanone (MBK)	44.8 ug/L	5	ug/L	50.0	<5 ug/L	89.7	55-130
4-Chlorotoluene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	75-130
4-Isopropyltoluene	58.7 ug/L	1	ug/L	50.0	<1 ug/L	117	75-130
4-Methyl-2-pentanone (MIBK)	46.7 ug/L	5	ug/L	50.0	<5 ug/L	93.4	60-135
Acetone	40.9 ug/L	10	ug/L	50.0	<10 ug/L	81.8	40-140
Benzene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	80-120



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Matrix Spike (BGL0751-MS1)

Source: 23L1002-01

Prepared & Analyzed: 12/18/2023

Bromobenzene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.7	75-125			
Bromochloromethane	42.7 ug/L	1	ug/L	50.0	<1 ug/L	85.3	65-130			
Bromodichloromethane	50.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	75-136			
Bromoform	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	70-130			
Bromomethane	39.8 ug/L	1	ug/L	50.0	<1 ug/L	79.7	30-145			
Carbon disulfide	42.8 ug/L	10	ug/L	50.0	<10 ug/L	85.5	35-160			
Carbon tetrachloride	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	65-140			
Chlorobenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.3	80-120			
Chloroethane	47.0 ug/L	1	ug/L	50.0	<1 ug/L	94.0	60-135			
Chloroform	43.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	87.6	65-135			
Chloromethane	42.3 ug/L	1	ug/L	50.0	<1 ug/L	84.6	40-125			
cis-1,2-Dichloroethylene	46.5 ug/L	1	ug/L	50.0	1.15 ug/L	90.7	70-125			
cis-1,3-Dichloropropene	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	47-136			
Dibromochloromethane	50.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	60-135			
Dibromomethane	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
Dichlorodifluoromethane	53.1 ug/L	1	ug/L	50.0	<1 ug/L	106	30-155			
Ethylbenzene	57.6 ug/L	1	ug/L	50.0	<1 ug/L	115	75-125			
Hexachlorobutadiene	53.3 ug/L	0.8	ug/L	50.0	<0.8 ug/L	107	50-140			
Isopropylbenzene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
m+p-Xylenes	104 ug/L	2	ug/L	100	<2 ug/L	104	75-130			
Methylene chloride	39.8 ug/L	4	ug/L	50.0	<4 ug/L	79.6	55-140			
Methyl-t-butyl ether (MTBE)	45.8 ug/L	1	ug/L	50.0	<1 ug/L	91.5	65-125			
Naphthalene	55.2 ug/L	1	ug/L	50.0	<1 ug/L	110	55-140			
n-Butylbenzene	57.0 ug/L	1	ug/L	50.0	<1 ug/L	114	70-135			
n-Propylbenzene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	70-130			
o-Xylene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	80-120			
sec-Butylbenzene	58.0 ug/L	1	ug/L	50.0	<1 ug/L	116	70-125			
Styrene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	65-135			
tert-Butylbenzene	54.8 ug/L	1	ug/L	50.0	<1 ug/L	110	70-130			
Tetrachloroethylene (PCE)	55.6 ug/L	1	ug/L	50.0	<1 ug/L	111	51-231			
Toluene	52.3 ug/L	1	ug/L	50.0	<1 ug/L	105	75-120			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0751 - SW5030B-MS

Matrix Spike (BGL0751-MS1)

Source: 23L1002-01

Prepared & Analyzed: 12/18/2023

trans-1,2-Dichloroethylene	46.3 ug/L	1	ug/L	50.0	<1 ug/L	92.6	60-140			
trans-1,3-Dichloropropene	57.6 ug/L	1	ug/L	50.0	<1 ug/L	115	55-140			
Trichloroethylene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	105	70-125			
Trichlorofluoromethane	57.0 ug/L	1	ug/L	50.0	<1 ug/L	114	60-145			
Vinyl chloride	49.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.4	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	52.9		ug/L	50.0	ug/L	106	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.5		ug/L	50.0	ug/L	105	75-120			
Surr: Dibromofluoromethane (Surr)	48.8		ug/L	50.0	ug/L	97.6	70-130			
Surr: Toluene-d8 (Surr)	49.7		ug/L	50.0	ug/L	99.4	70-130			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

Blank (BGL0774-BLK1)

Prepared & Analyzed: 12/19/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

Blank (BGL0774-BLK1)

Prepared & Analyzed: 12/19/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

Blank (BGL0774-BLK1)

Prepared & Analyzed: 12/19/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	87.8		ug/L	100		87.8	5-136			
Surr: 2-Fluorobiphenyl (Surr)	38.8		ug/L	50.0		77.6	9-117			



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 8382 Terminal Rd, Bay B Project Number: 4260155-001
 Lorton VA, 22079 Purchase Order: 4260155-001
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 Client Site I.D.: Coopers Cove

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

Blank (BGL0774-BLK1)

Prepared & Analyzed: 12/19/2023

Surr: 2-Fluorophenol (Surr)	56.4		ug/L	100		56.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	42.1		ug/L	50.0		84.2	5-151			
Surr: Phenol-d5 (Surr)	33.2		ug/L	100		33.2	5-60			
Surr: p-Terphenyl-d14 (Surr)	40.0		ug/L	50.0		80.0	5-141			

LCS (BGL0774-BS1)

Prepared & Analyzed: 12/19/2023

1,2,4-Trichlorobenzene	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	57-130			
1,2-Dichlorobenzene	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.3	22-115			
1,3-Dichlorobenzene	35.5 ug/L	10.0	ug/L	50.0	ug/L	71.0	22-112			
1,4-Dichlorobenzene	38.0 ug/L	10.0	ug/L	50.0	ug/L	76.0	13-112			
2,4,6-Trichlorophenol	57.8 ug/L	10.0	ug/L	50.0	ug/L	116	52-129			
2,4-Dichlorophenol	41.9 ug/L	10.0	ug/L	50.0	ug/L	83.8	53-122			
2,4-Dimethylphenol	41.5 ug/L	5.00	ug/L	50.0	ug/L	83.0	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	64.2	48-127			
2,4-Dinitrotoluene	45.5 ug/L	10.0	ug/L	50.0	ug/L	91.1	10-173			
2,6-Dinitrotoluene	41.6 ug/L	10.0	ug/L	50.0	ug/L	83.2	68-137			
2-Chloronaphthalene	51.2 ug/L	10.0	ug/L	50.0	ug/L	102	65-120			
2-Chlorophenol	38.7 ug/L	10.0	ug/L	50.0	ug/L	77.5	36-120			
2-Nitrophenol	42.0 ug/L	10.0	ug/L	50.0	ug/L	84.1	45-167			
3,3'-Dichlorobenzidine	27.9 ug/L	10.0	ug/L	50.0	ug/L	55.7	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	81.2	53-130			
4-Bromophenyl phenyl ether	46.5 ug/L	10.0	ug/L	50.0	ug/L	92.9	65-120			
4-Chlorophenyl phenyl ether	36.9 ug/L	10.0	ug/L	50.0	ug/L	73.8	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	32.0	13-129			
Acenaphthene	41.3 ug/L	10.0	ug/L	50.0	ug/L	82.6	60-132			
Acenaphthylene	45.9 ug/L	10.0	ug/L	50.0	ug/L	91.8	54-126			
Acetophenone	38.9 ug/L	20.0	ug/L	50.0	ug/L	77.9	0-200			
Anthracene	45.9 ug/L	10.0	ug/L	50.0	ug/L	91.7	43-120			
Benzo (a) anthracene	48.6 ug/L	10.0	ug/L	50.0	ug/L	97.3	42-133			
Benzo (a) pyrene	54.5 ug/L	10.0	ug/L	50.0	ug/L	109	32-148			
Benzo (b) fluoranthene	57.0 ug/L	10.0	ug/L	50.0	ug/L	114	42-140			
Benzo (g,h,i) perylene	39.2 ug/L	10.0	ug/L	50.0	ug/L	78.3	10-195			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

LCS (BGL0774-BS1)

Prepared & Analyzed: 12/19/2023

Benzo (k) fluoranthene	64.0 ug/L	10.0	ug/L	50.0	ug/L	128	25-146			
bis (2-Chloroethoxy) methane	38.6 ug/L	10.0	ug/L	50.0	ug/L	77.1	49-165			
bis (2-Chloroethyl) ether	35.9 ug/L	10.0	ug/L	50.0	ug/L	71.9	43-126			
2,2'-Oxybis (1-chloropropane)	40.2 ug/L	10.0	ug/L	50.0	ug/L	80.4	63-139			
bis (2-Ethylhexyl) phthalate	39.0 ug/L	10.0	ug/L	50.0	ug/L	78.0	29-137			
Butyl benzyl phthalate	30.0 ug/L	10.0	ug/L	50.0	ug/L	60.0	10-140			
Chrysene	49.9 ug/L	10.0	ug/L	50.0	ug/L	99.9	44-140			
Dibenz (a,h) anthracene	41.8 ug/L	10.0	ug/L	50.0	ug/L	83.7	10-200			
Diethyl phthalate	43.6 ug/L	10.0	ug/L	50.0	ug/L	87.2	10-120			
Dimethyl phthalate	45.2 ug/L	10.0	ug/L	50.0	ug/L	90.4	10-120			
Di-n-butyl phthalate	41.9 ug/L	10.0	ug/L	50.0	ug/L	83.8	10-120			
Di-n-octyl phthalate	46.8 ug/L	10.0	ug/L	50.0	ug/L	93.7	19-132			
Fluoranthene	71.1 ug/L	10.0	ug/L	50.0	ug/L	142	43-121			L
Fluorene	53.1 ug/L	10.0	ug/L	50.0	ug/L	106	70-120			
Hexachlorobenzene	39.4 ug/L	1.00	ug/L	50.0	ug/L	78.7	10-142			
Hexachlorobutadiene	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.4	38-120			
Hexachlorocyclopentadiene	20.9 ug/L	10.0	ug/L	50.0	ug/L	41.7	10-76			
Hexachloroethane	40.9 ug/L	10.0	ug/L	50.0	ug/L	81.8	55-120			
Indeno (1,2,3-cd) pyrene	38.9 ug/L	10.0	ug/L	50.0	ug/L	77.9	10-151			
Isophorone	26.9 ug/L	10.0	ug/L	50.0	ug/L	53.8	47-180			
Naphthalene	44.9 ug/L	5.00	ug/L	50.0	ug/L	89.9	36-120			
Nitrobenzene	43.4 ug/L	10.0	ug/L	50.0	ug/L	86.7	54-158			
n-Nitrosodimethylamine	28.3 ug/L	10.0	ug/L	50.0	ug/L	56.5	10-85			
n-Nitrosodi-n-propylamine	38.1 ug/L	10.0	ug/L	50.0	ug/L	76.2	14-198			
n-Nitrosodiphenylamine	43.8 ug/L	10.0	ug/L	50.0	ug/L	87.7	12-97			
p-Chloro-m-cresol	41.1 ug/L	10.0	ug/L	50.0	ug/L	82.3	10-142			
Pentachlorophenol	35.2 ug/L	20.0	ug/L	50.0	ug/L	70.4	38-152			
Phenanthrene	54.3 ug/L	10.0	ug/L	50.0	ug/L	109	65-120			
Phenol	17.2 ug/L	10.0	ug/L	50.5	ug/L	34.1	17-120			
Pyrene	32.1 ug/L	10.0	ug/L	50.0	ug/L	64.2	70-120			L
Pyridine	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	10-103			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	December 21, 2023 16:24
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL0774 - SW3510C/EPA600-MS

LCS (BGL0774-BS1)

Prepared & Analyzed: 12/19/2023

Surr: 2,4,6-Tribromophenol (Surr)	156		ug/L	100	ug/L	156	5-136			S
Surr: 2-Fluorobiphenyl (Surr)	49.7		ug/L	50.0	ug/L	99.3	9-117			
Surr: 2-Fluorophenol (Surr)	63.4		ug/L	100	ug/L	63.4	5-60			S
Surr: Nitrobenzene-d5 (Surr)	43.1		ug/L	50.0	ug/L	86.2	5-151			
Surr: Phenol-d5 (Surr)	36.8		ug/L	100	ug/L	36.8	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.4		ug/L	50.0	ug/L	60.8	5-141			



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Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Summary of Data Qualifiers

C Continuing calibration verification response for this analyte is outside specifications.

L LCS recovery is outside of established acceptance limits

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: Total Env Concepts INVOICE TO: AP @ xci.pr PROJECT NAME/Quote #: Halstad
 CONTACT: Shama Hyvial INVOICE CONTACT: Tyone Best SITE NAME:
 ADDRESS:
 PHONE #: (804) 389-7983 INVOICE ADDRESS:
 FAX #: INVOICE PHONE #: PROJECT NUMBER: 4260155-001
 EMAIL: Shrynial @ xci.pr Pretreatment Program:
 Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #: Turn Around Time: Circle 10 5 Days or 3 Day(s)

SAMPLER NAME (PRINT): Shama Hyvial SAMPLER SIGNATURE: [Signature] COMMENTS:
 Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other
 Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
											VOCs 8260	SVOCs 8270	
1) Post CEV 1556	X			12/15/23		1000	1520	6W	H	X	X		
2) 1653 Cooper's Cove					1245								
3) 17 Valley view					1430								
4) 1326 Cooper's Cove					1450								
5) Walter's Greenhouse					1400								
6) SS valley view					1500					2	X		
7) trip blank													
8)													
9)													
10)													

ACQUISITION: [Signature] DATE / TIME: 12/18/23 0930 RECEIVED: [Signature] DATE / TIME: 12/19/23 0930
 WASHED: DATE / TIME: RECEIVED: DATE / TIME: Level III
 ACQUISITION: DATE / TIME: RECEIVED: DATE / TIME: Level IV
 LAB USE ONLY Therm ID: 330 COOLER TEMP 4.5 °C
 Custody Seals used and intact? (Y / N)
TEC-Springfield 23L0996
Halstead
 Recd: 12/18/2023 Due: 12/21/2023



Sample Preservation Log

Order ID: 23L0996

Date Performed: 7/18/23

Analyst Performing Check: HEG

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (808/608/508) PCB DW only		SVOC (825/827/825)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Received Res. Cl	final + or -	Received Res. Cl	final + or -	Received Res. Cl	Final pH	Received Res. Cl	Final pH	Received Res. Cl	Final pH	Received Res. Cl
01	A																													
02	A																													
03	A																													
04	A																													
05	A																													
06	A																													

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____
 HCL ID: _____ Na2SO3 ID: _____
 CrVI preserved date/time: _____
 * pH must be adjusted between 9.3 - 9.7
 Ammonia Buffer Sol'n ID: _____
 5N NaOH ID: _____



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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove	Purchase Order:	4260155-001


Sample Conditions Checklist


Samples Received at:	4.50°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes


Trip blank collection date and times (12/12/23 1200, 1335) were logged per the bottle labels. MRS 12/18/23 1448





Appendix L
DPT Boring Logs


Boring/Well Number: B-1		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole Start 12/22/2023		Borehole Start Time: 930					
		End Date: 12/22/2023		End Time: 1000					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ					
Borehole Ground Elevation: 1073'		Pavement Thickness (in): NA		Borehole Diameter (inches): 4.25"					
				Borehole Depth (feet): 25					
Drilling Method(s): Direct Push		Apparent Borehole DTW NA		Measured Well DTW (24 hr) NA					
				OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>					
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other									
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other									
Sample Type	Sample Interval	Sample Depth	Sample Recover	SPT Blows	OVA/RID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
		0-5'			0.1	0 1 2 3 4 5	Brown/red, clay, moist, no petroleum odor present (CL)		
		5-10'			180.8 33.6	6 7 8 9 10	Brown, clay (CL) transitioning to silt (ML) at 8', strong odor starting at 8', white, weathered saprolite fragments present		B-1 @ 8': TPH-DRO: 14,200 mg/kg
		10-15'			32.1 30.9	11 12 13 14 15	Light brown silt with little sand (ML) and weathered saprolite, moist, petroleum odor present		B-1 @ 12': TPH-DRO: 296 mg/kg
		15-20'			8.4	16 17 18 19 20	Light brown silt with little sand (ML) and weathered saprolite, moist, slight petroleum odor present		
		20-25'			1.2	21 22 23 24 25	Light brown silt with little sand (ML) and weathered saprolite, moist, very faint petroleum odor present		
Probe refusal at 25' BGS - boring terminated									


Boring/Well Number: B-2		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole Start: 12/22/2023 End Date: 12/22/2023		Borehole Start Time: 1010 End Time: 1035					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ					
Borehole Ground Elevation: 1080'		Pavement Thickness (in): NA	Borehole Diameter (inches): 4.25"		Borehole Depth (feet): 34				
Drilling Method(s): Direct Push		Apparent Borehole DTW NA	Measured Well DTW (24 hr) NA		OVA: Multi RAE <input type="checkbox"/> FID <input checked="" type="checkbox"/> PID				
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other									
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other									
Sample Type	Interval	Sample Depth	Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'				0.0	0 1 2 3 4 5	Brown/red, clay, moist, no petroleum odor present (CL)		
	5-10'				0.0	6 7 8 9 10	Brown/red, clay, moist, no petroleum odor present (CL)		
	10-15'				0.0	11 12 13 14 15	Brown silt with little sand (ML), weathered saprolite (black and white striations), moist, no petroleum odor present		
	15-20'				0.0	16 17 18 19 20	Brown silt with little sand (ML), weathered saprolite (black and white striations), moist, no petroleum odor present		
	20-25'				0.0	21 22 23 24 25	Brown silt with little sand (ML), weathered saprolite, moist, no petroleum odor present		
	25-30'				0.0	26 27 28 29 30	Brown silt with little sand (ML), weathered saprolite, moist, no petroleum odor present		
	30-34'				0.4	31 32 33 34	Brown silt with little sand (ML), weathered saprolite, moist, no petroleum odor present		B-2 @ 32': TPH-DRO: 18.2 mg/kg TPH-GRO: 0.11 mg/kg
Probe refusal at 34' BGS - boring terminated									


Boring/Well Number: B-3		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole Start 12/22/2023		Borehole Start Time: 1010					
		End Date: 12/22/2023		End Time: 1045					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ					
Borehole Ground Elevation: 1085'		Pavement Thickness (in): NA		Borehole Diameter (inches): 4.25"					
				Borehole Depth (feet): 25					
Drilling Method(s): Direct Push		Apparent Borehole DTW NA		Measured Well DTW (24 hr) NA					
				OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>					
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other									
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other									
Sample Type	Sample Interval	Sample Depth	Sample Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'				0.0	0 1 2 3 4 5	Brown/red, clay, moist, no petroleum odor present (CL)		
	5-10'				0.1	6 7 8 9 10	Brown/red, clay, moist, no petroleum odor present (CL); transition to silt at 7' (ML) with saprolite present at 8'		
	10-15'				0.3	11 12 13 14 15	Brown silt (ML), weathered saprolite (black and white striations), moist, no petroleum odor present		
	15-20'				0.8	16 17 18 19 20	Brown silt with little sand at 18' (ML), weathered saprolite layering, moist, no petroleum odor present		
	20-25'				2.8	21 22 23 24 25	Dark brown/black silt with little sand (ML), weathered saprolite layering, moist, no petroleum odor present		
B-3 @ 25' TPH-DRO: 15.4 mg/kg									
Probe refusal at 25' BGS - boring terminated									

Boring/Well Number: B-4		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole Start 12/22/2023		Borehole Start Time: 1050					
		End Date: 12/22/2023		End Time: 1140					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryniak		Client: VDEQ					
Borehole Ground Elevation: 1091'		Pavement Thickness (in): NA	Borehole Diameter (inches): 4.25"		Borehole Depth (feet): 18				
Drilling Method(s): Direct Push		Apparent Borehole DTW NA	Measured Well DTW (24 hr) NA	OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>					
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other									
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other									
Sample Type	Sample Interval	Sample Depth	Sample Recover	SPT Blows	OVA/RID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
		0-5'			0.3	0 1 2 3 4 5	Red, clay, moist, no petroleum odor present (CL)		
		5-10'			0.1	6 7 8 9 10	Brown/red, sandy clay, moist, no petroleum odor present (SM)		
		10-15'			0.1	11 12 13 14 15	Brown silt with little sand (ML), moist, no petroleum odor present		
					0.0	16 17	Brown silt with little sand (ML), moist, no petroleum odor present		
					0.3	18			B-4 @ 18': TPH-DRO: 13.3 mg/kg
Probe refusal at 18' BGS - boring terminated									

Boring/Well Number: B-5		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole Start 12/22/2023		Borehole Start Time: 1145					
		End Date: 12/22/2023		End Time: 1200					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryniak		Client: VDEQ					
Borehole Ground Elevation: 1090'		Pavement Thickness (in): NA		Borehole Diameter (inches): 4.25"					
				Borehole Depth (feet): 25					
Drilling Method(s): Direct Push		Apparent Borehole DTW NA		Measured Well DTW (24 hr) NA					
				OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>					
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other									
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other									
Sample Type	Sample Interval	Sample Depth	Sample Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'				0.0	0 1 2 3 4 5	Gravel 0-2'; 2-5': Red, clay, moist, no petroleum odor present (CL)		
	5-10'				0.1	6 7 8 9 10	Brown/red, sandy clay, moist, no petroleum odor present (SM); organic layer present 6-7'		
	10-15'				1.1	11 12 13 14 15	Red sandy clay (SM) transitioning to silty gravel layer (GM) from 12-13' and then brown silt with little sand (ML) at 13', moist, no petroleum odor present		
	15-20'				4.1	16 17 18 19 20	Brown silt with little sand (ML), moist, very slight petroleum odor present		
	20-25'				49.4	21 22 23 24 25	Brown silt with little sand (ML), moist, slight petroleum odor present		B-5 @ 25: TPH-DRO: 17 mg/kg TPH-GRO: 0.49 mg/kg
Boring terminated at 25' BGS									

Boring/Well Number: B-6		Project Number: 4260155						
Site Name: Coopers Cove Petroleum Release		Borehole Start 12/22/2023		Borehole Start Time: 1215				
		End Date: 12/22/2023		End Time: 1230				
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ				
Borehole Ground Elevation: 1088'		Pavement Thickness (in): NA	Borehole Diameter (inches): 4.25"		Borehole Depth (feet): 20			
Drilling Method(s): Direct Push	Apparent Borehole DTW NA		Measured Well DTW (24 hr) NA	OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>				
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other								
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other								
Sample Type	Sample Depth Interval	Sample Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'			0.0	0 1 2 3 4 5	Gravel 0-2'; 2-5': Soft organic layer, moist, no petroleum odor present (CL)		
	5-10'			0.1	6 7 8 9 10	Brown/red, sandy clay, moist, no petroleum odor present (SM); organic layer present 6-7'		
	10-15'			1.2	11 12 13 14 15	Red sandy clay (SM) transitioning to brown silt with little sand (ML) at 12'. moist, very slight petroleum odor present at 14-15'		
	15-20'			2.6	16 17 18 19 20	Brown silt with little sand (ML), moist, very slight petroleum odor present		B-6 @ 20': Non-Detect
Boring terminated at 20' BGS								

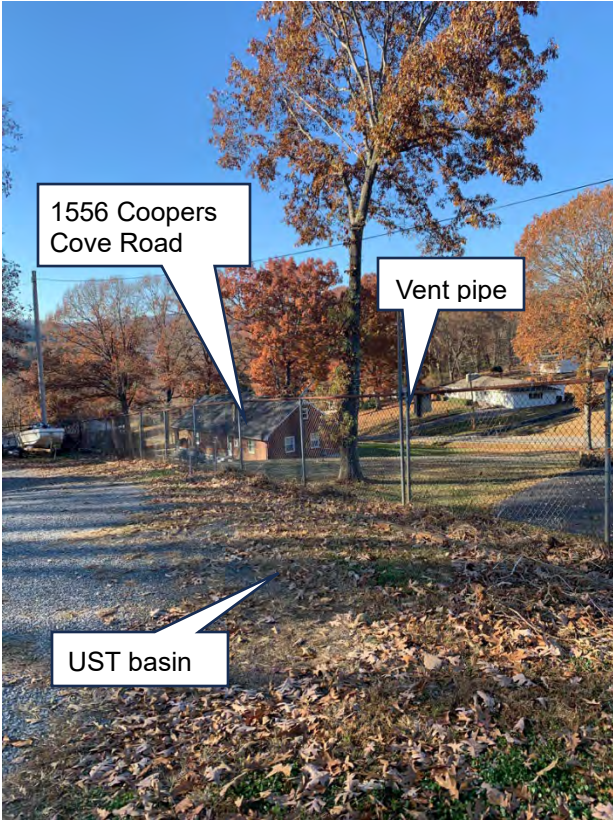
Boring/Well Number: B-7		Project Number: 4260155						
Site Name: Coopers Cove Petroleum Release		Borehole Start: 12/22/2023 End Date: 12/22/2023		Borehole Start Time: 1230 End Time: 1330				
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ				
Borehole Ground Elevation: 1089'		Pavement Thickness (in): NA	Borehole Diameter (inches): 4.25"		Borehole Depth (feet): 33			
Drilling Method(s): Direct Push		Apparent Borehole DTW NA	Measured Well DTW (24 hr) NA		OVA: Multi RAE <input type="checkbox"/> FID <input type="checkbox"/> PID <input checked="" type="checkbox"/>			
Disposition of Drill Cuttings: <input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other								
Borehole Completion: <input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other								
Sample Type	Sample Depth Interval	Sample Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'			12.4	0 1 2 3 4 5	0-2': Gravel; 2-5' Red, clay, wet, strong petroleum odor at 5' (CL)		
	5-10'			3849	6 7 8 9 10	Dark brown/black, silty sand, moist, strong petroleum odor (ML)		B-7 @ 10': TPH-DRO: 2870 mg/kg TPH-GRO: 3490 mg/kg Total BTEX: 485,969 mg/kg Naphthalene: 71,900 mg/kg
	10-15'			3756 3615	11 12 13 14 15	Red silt with little sand, moist, strong petroleum odor (ML)		
	15-20'			2862 3200	16 17 18 19 20	Red silt with little sand, moist, strong petroleum odor (ML)		
	20-25'			3050	21 22 23 24 25	Red silt with little sand, moist, strong petroleum odor (ML)		
	25-30'			3235	26 27 28 29 30	Red silt with little sand, moist, strong petroleum odor (ML)		
	30-33'			3626 3151	31 32 33	Red silt with little sand, moist, strong petroleum odor (ML)		B-7 @ 31-33': TPH-DRO: 1050 mg/kg TPH-GRO: 930 mg/kg Total BTEX: 154,600 mg/kg Naphthalene: 28,100 mg/kg
Probe refusal @ 33'; boring terminated								

Boring/Well Number: B-8		Project Number: 4260155							
Site Name: Coopers Cove Petroleum Release		Borehole 12/22/2023 End Date: 12/22/2023		Borehole Start Time: 1330 End Time: 1350					
Drilling Contractor: Davidson Drilling		Inspector: Shanna Hryvniak		Client: VDEQ					
Borehole Ground Elevation: 1090'		Pavement Thickness (in): NA		Borehole Diameter (inches): 4.25"					
Drilling Method(s): Direct Push		Apparent Borehole DTW NA		Measured Well DTW (24 hr) NA					
Disposition of Drill Cuttings:		<input type="checkbox"/> Drum <input type="checkbox"/> Spread <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Stockpile <input type="checkbox"/> Other							
Borehole Completion:		<input type="checkbox"/> Well <input type="checkbox"/> Grout <input type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Backfill <input type="checkbox"/> Other							
Sample Type	Sample Interval	Sample Depth	Sample Recover	SPT Blows	OVA/PID	Depth (feet)	Lithology	USCS Symbol	Lab Samples/Remarks
	0-5'				280.3	0 1 2 3 4 5	0-2': Gravel; 2-5' Red, clay, moist, strong petroleum odor at 5' (CL)		
	5-10'				454.2 3806	6 7 8 9 10	Dark brown, sandy clay, moist, strong petroleum odor (SM)		B-8 @ 10': TPH-DRO: 2720 mg/kg TPH-GRO: 2660mg/kg Total BTEX: 405.415 mg/kg Naphthalene: 47,800 mg/kg
	10-15'				3476 3355	11 12 13 14 15	Dark brown, sandy clay (SM) transitioning to red silt with little sand (ML) at 12', moist, strong petroleum odor (ML)		
	15-20'				3271	16 17 18 19 20	Red silt with little sand, moist, strong petroleum odor (ML)		
	20-25'				3198 3602	21 22 23 24 25	Red silt with little sand, moist, strong petroleum odor (ML)		
	25-30'				2653 2835	26 27 28 29 30	Red silt with little sand, rock fragments present 26-27', moist, strong petroleum odor (ML)		
	30-35'				2999 3207 2765	31 32 33 34 35	Red silt with little sand, moist, strong petroleum odor (ML)		
	35-36'				2469	36	Red silt with little sand, moist, strong petroleum odor (ML)		B-8 @ 34-36': TPH-DRO: 1490 mg/kg TPH-GRO: 1650 mg/kg Total BTEX: 349.560 mg/kg Naphthalene: 30,300 mg/kg
Probe refusal @ 36'; boring terminated									



Appendix M
Site Photographs

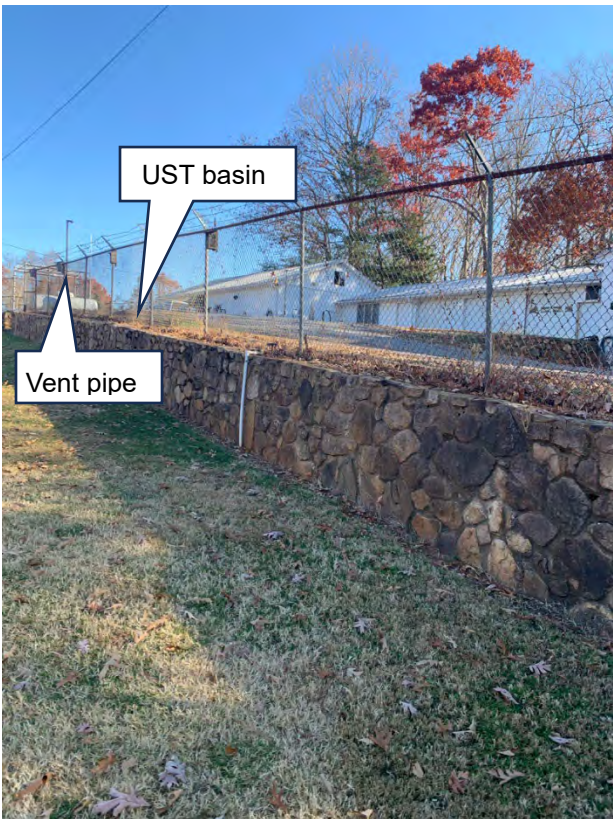
Appendix M. Site Photographs
Coopers Cove Petroleum Release (PC 2024-2089)



1. View facing southwest towards 1556 Coopers Cove Road (11/16/2023)



2. Petroleum-impacted supply well located at 1556 Coopers Cove Road (11/16/2023)



3. View facing northeast towards UST basin (11/16/2023)



4. Location of heating oil UST and supply well at 1640 Coopers Cove Road (11/16/2023)

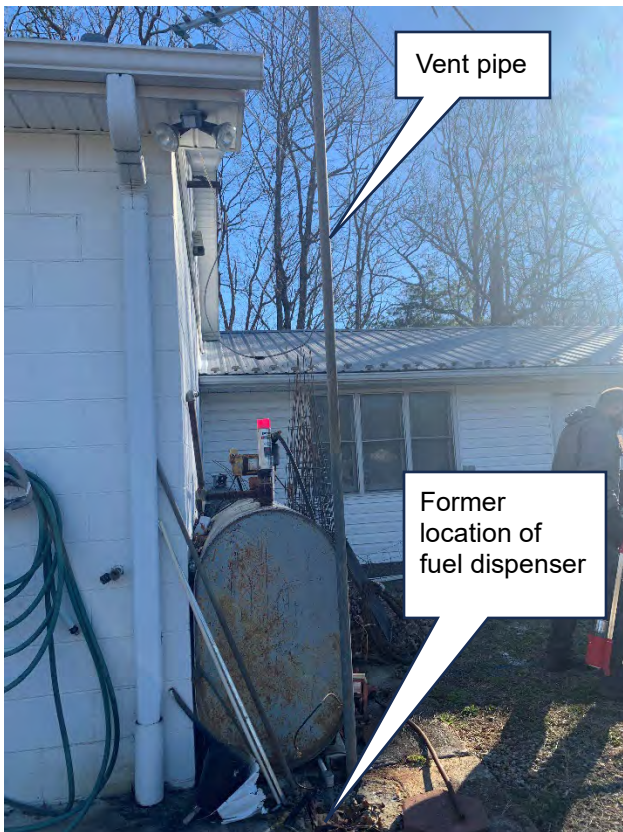
Appendix M. Site Photographs
Coopers Cove Petroleum Release (PC 2024-2089)



5. Vent pipes noted at 1430 Coopers Cove Road (12/15/2023)



6. Ground penetrating radar and private utility locating (12/15/2023)



7. Additional vent pipe located and former location of fuel dispenser (12/15/2023)



8. UST basin uncovered at 1640 Coopers Cove Road (12/15/2023)

Appendix M. Site Photographs
Coopers Cove Petroleum Release (PC 2024-2089)



9. Suspected location of heating oil UST at 1556 Coopers Cove Road (12/15/2023)



10. Soil boring B-1 near heating oil UST at 1556 Coopers Cove Road (12/22/2023)



11. Boring B-2, south of the gasoline UST basin at 1640 Coopers Cove Road (12/22/2023)



12. Boring B-3, west of the gasoline UST basin at 1640 Coopers Cove Road (12/22/2023)

Appendix M. Site Photographs
Coopers Cove Petroleum Release (PC 2024-2089)



13. Boring B-4 near former fuel dispenser
(12/22/2023)



14. Collection of soil samples via new clear, thin walled, PVC liners (12/22/2023)



15. Boring B-5 to the north of the UST basin (12/22/2023)



16. Boring B-6 to the west of the UST basin (12/22/2023)

Appendix M. Site Photographs
Coopers Cove Petroleum Release (PC 2024-2089)



17. Boring B-7 located to the southwest of the UST basin
(12/22/2023)



18. Boring B-8 located to the southeast of the UST basin
(12/22/2023)



Appendix N

Laboratory Analytical Report (12/22/2023)



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 23L1349

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Date Received: December 26, 2023 11:04

Date Issued: January 3, 2024 17:05

Lorton, VA 22079

Project Number: 4260155

Submitted To: Shanna Hryvniak

Purchase Order: 4260155-001

Client Site I.D.: Coopers Cove Petroleum Release

Enclosed are the results of analyses for samples received by the laboratory on 12/26/2023 11:04. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L1349

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1 @ 8'	23L1349-01	Solids	12/22/2023 09:30	12/26/2023 11:04
B-2 @ 32'	23L1349-02	Solids	12/22/2023 10:30	12/26/2023 11:04
B-3 @ 25'	23L1349-03	Solids	12/22/2023 11:00	12/26/2023 11:04
B-4 @ 18'	23L1349-04	Solids	12/22/2023 11:40	12/26/2023 11:04
B-5 @ 25'	23L1349-05	Solids	12/22/2023 12:00	12/26/2023 11:04
B-6 @ 20'	23L1349-06	Solids	12/22/2023 12:30	12/26/2023 11:04
B-7 @ 10'	23L1349-07	Solids	12/22/2023 13:15	12/26/2023 11:04
B-7 @ 31-33'	23L1349-08	Solids	12/22/2023 13:30	12/26/2023 11:04
B-8 @ 10'	23L1349-09	Solids	12/22/2023 13:25	12/26/2023 11:04
B-8 @ 34-36'	23L1349-10	Solids	12/22/2023 13:50	12/26/2023 11:04
B-1 @ 12'	23L1349-11	Solids	12/22/2023 09:35	12/26/2023 11:04
350 Ridgecrest	23L1349-12	Ground Water	12/22/2023 15:30	12/26/2023 11:04
1987 Cooper Cove	23L1349-13	Ground Water	12/22/2023 09:15	12/26/2023 11:04
76 Patsel Court	23L1349-14	Ground Water	12/22/2023 09:00	12/26/2023 11:04
Trip Blank	23L1349-15	Ground Water	12/08/2023 12:57	12/26/2023 11:04
Holland HO @ 90'	23L1349-16	Solids	12/22/2023 14:30	12/26/2023 11:04



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-1 @ 8'	Laboratory Sample ID: 23L1349-01
Grab Date/Time: 12/22/2023 09:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	01RE1	SW8015C	14200 mg/kg		980	50	12/27/23 15:20	12/29/23 09:08	LBH2
Surr: n-Triacontane (Surr)	01RE1	SW8015C	35.6 %	DS	50-125		12/27/23 15:20	12/29/23 09:08	LBH2



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-2 @ 32'	Laboratory Sample ID: 23L1349-02
Grab Date/Time: 12/22/2023 10:30	Field pH:
Field Residual Cl:	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
Benzene	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
Toluene	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
Ethylbenzene	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
m+p-Xylenes	02	SW8021B	<10.0 ug/kg		10.0	1	12/29/23 00:00	12/29/23 13:53	JWR
o-Xylene	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
Xylenes, Total	02	SW8021B	<15.0 ug/kg		15.0	1	12/29/23 00:00	12/29/23 13:53	JWR
Naphthalene	02	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 13:53	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	02	SW8021B	98.5 %		80-120		12/29/23 00:00	12/29/23 13:53	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	02	SW8015C	0.11 mg/kg		0.10	1	12/26/23 22:35	12/26/23 22:35	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	02	SW8015C	102 %		80-120		12/26/23 22:35	12/26/23 22:35	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	02	SW8015C	18.2 mg/kg		10.0	1	12/27/23 15:20	12/28/23 20:10	LBH2
Surr: n-Triacontane (Surr)	02	SW8015C	81.1 %		50-125		12/27/23 15:20	12/28/23 20:10	LBH2



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-3 @ 25'	Laboratory Sample ID: 23L1349-03
Grab Date/Time: 12/22/2023 11:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
Benzene	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
Toluene	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
Ethylbenzene	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
m+p-Xylenes	03	SW8021B	<10.0 ug/kg		10.0	1	12/29/23 00:00	12/29/23 14:16	JWR
o-Xylene	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
Xylenes, Total	03	SW8021B	<15.0 ug/kg		15.0	1	12/29/23 00:00	12/29/23 14:16	JWR
Naphthalene	03	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:16	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	03	SW8021B	98.4 %		80-120		12/29/23 00:00	12/29/23 14:16	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	03	SW8015C	<0.10 mg/kg		0.10	1	12/26/23 22:58	12/26/23 22:58	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	03	SW8015C	112 %		80-120		12/26/23 22:58	12/26/23 22:58	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	03	SW8015C	15.4 mg/kg		10.0	1	12/27/23 15:20	12/28/23 20:31	LBH2
Surr: n-Triacontane (Surr)	03	SW8015C	78.0 %		50-125		12/27/23 15:20	12/28/23 20:31	LBH2



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-4 @ 18' Laboratory Sample ID: 23L1349-04
 Grab Date/Time: 12/22/2023 11:40
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
Benzene	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
Toluene	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
Ethylbenzene	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
m+p-Xylenes	04	SW8021B	<10.0 ug/kg		10.0	1	12/29/23 00:00	12/29/23 14:38	JWR
o-Xylene	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
Xylenes, Total	04	SW8021B	<15.0 ug/kg		15.0	1	12/29/23 00:00	12/29/23 14:38	JWR
Naphthalene	04	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 14:38	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	04	SW8021B	89.5 %		80-120		12/29/23 00:00	12/29/23 14:38	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	04	SW8015C	<0.10 mg/kg		0.10	1	12/26/23 23:20	12/26/23 23:20	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	04	SW8015C	97.4 %		80-120		12/26/23 23:20	12/26/23 23:20	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	04	SW8015C	13.3 mg/kg		10.0	1	12/27/23 15:20	12/28/23 20:52	LBH2
Surr: n-Triacontane (Surr)	04	SW8015C	92.0 %		50-125		12/27/23 15:20	12/28/23 20:52	LBH2



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-5 @ 25'	Laboratory Sample ID: 23L1349-05
Grab Date/Time: 12/22/2023 12:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	05	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR
Benzene	05	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR
Toluene	05	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR
Ethylbenzene	05	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR
m+p-Xylenes	05	SW8021B	<10.0 ug/kg		10.0	1	12/29/23 00:00	12/29/23 15:00	JWR
o-Xylene	05	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR
Xylenes, Total	05	SW8021B	<15.0 ug/kg		15.0	1	12/29/23 00:00	12/29/23 15:00	JWR
Naphthalene	05	SW8021B	11.1 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:00	JWR

Surr: 2,5-Dibromotoluene (Surr PID)	05	SW8021B	111 %		80-120		12/29/23 00:00	12/29/23 15:00	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	05	SW8015C	0.49 mg/kg		0.10	1	12/26/23 23:42	12/26/23 23:42	JWR

Surr: 2,5-Dibromotoluene (Surr FID)	05	SW8015C	137 %	S	80-120		12/26/23 23:42	12/26/23 23:42	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	05	SW8015C	17.0 mg/kg		10.0	1	12/27/23 15:20	12/28/23 21:14	LBH2

Surr: n-Triacontane (Surr)	05	SW8015C	78.4 %		50-125		12/27/23 15:20	12/28/23 21:14	LBH2



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-6 @ 20'	Laboratory Sample ID: 23L1349-06
Grab Date/Time: 12/22/2023 12:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
Benzene	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
Toluene	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
Ethylbenzene	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
m+p-Xylenes	06	SW8021B	<10.0 ug/kg		10.0	1	12/29/23 00:00	12/29/23 15:45	JWR
o-Xylene	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
Xylenes, Total	06	SW8021B	<15.0 ug/kg		15.0	1	12/29/23 00:00	12/29/23 15:45	JWR
Naphthalene	06	SW8021B	<5.00 ug/kg		5.00	1	12/29/23 00:00	12/29/23 15:45	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	06	SW8021B	97.0 %		80-120		12/29/23 00:00	12/29/23 15:45	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	06	SW8015C	<0.10 mg/kg		0.10	1	12/27/23 00:05	12/27/23 00:05	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	06	SW8015C	109 %		80-120		12/27/23 00:05	12/27/23 00:05	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	06	SW8015C	<10.0 mg/kg		10.0	1	12/27/23 15:20	12/28/23 21:35	LBH2
Surr: n-Triacontane (Surr)	06	SW8015C	26.7 %	S	50-125		12/27/23 15:20	12/28/23 21:35	LBH2



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-7 @ 10' Laboratory Sample ID: 23L1349-07
 Grab Date/Time: 12/22/2023 13:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	07	SW8021B	<246 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
Benzene	07	SW8021B	969 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
Toluene	07	SW8021B	61200 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
Ethylbenzene	07	SW8021B	79800 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
m+p-Xylenes	07	SW8021B	216000 ug/kg		492	50	12/29/23 00:00	12/29/23 16:07	JWR
o-Xylene	07	SW8021B	128000 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
Xylenes, Total	07	SW8021B	344000 ug/kg		738	50	12/29/23 00:00	12/29/23 16:07	JWR
Naphthalene	07	SW8021B	71900 ug/kg		246	50	12/29/23 00:00	12/29/23 16:07	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	07	SW8021B	114 %	S	80-120		12/29/23 00:00	12/29/23 16:07	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	07RE2	SW8015C	3490 mg/kg		9.84	100	01/02/24 13:54	01/02/24 13:54	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	07RE2	SW8015C	209 %	S	80-120		01/02/24 13:54	01/02/24 13:54	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	07RE1	SW8015C	2870 mg/kg		499	50	12/27/23 15:20	12/29/23 09:30	LBH2
Surr: n-Triacontane (Surr)	07RE1	SW8015C	52.8 %		50-125		12/27/23 15:20	12/29/23 09:30	LBH2



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-7 @ 31-33'	Laboratory Sample ID: 23L1349-08
Grab Date/Time: 12/22/2023 13:30	Field pH:
Field Residual Cl:	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	08	SW8021B	<245 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
Benzene	08	SW8021B	<245 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
Toluene	08	SW8021B	16200 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
Ethylbenzene	08	SW8021B	21400 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
m+p-Xylenes	08	SW8021B	74300 ug/kg		490	50	12/29/23 00:00	12/29/23 16:52	JWR
o-Xylene	08	SW8021B	42500 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
Xylenes, Total	08	SW8021B	117000 ug/kg		735	50	12/29/23 00:00	12/29/23 16:52	JWR
Naphthalene	08	SW8021B	28100 ug/kg		245	50	12/29/23 00:00	12/29/23 16:52	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	08	SW8021B	107 %	S	80-120		12/29/23 00:00	12/29/23 16:52	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	08RE1	SW8015C	930 mg/kg		4.90	50	12/29/23 00:00	12/29/23 16:52	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	08RE1	SW8015C	184 %	S	80-120		12/29/23 00:00	12/29/23 16:52	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	08RE1	SW8015C	1050 mg/kg		100	10	12/27/23 15:20	12/29/23 09:51	LBH2
Surr: n-Triacontane (Surr)	08RE1	SW8015C	70.0 %		50-125		12/27/23 15:20	12/29/23 09:51	LBH2



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-8 @ 10'	Laboratory Sample ID: 23L1349-09
Grab Date/Time: 12/22/2023 13:25	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	09	SW8021B	<248 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR
Benzene	09	SW8021B	815 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR
Toluene	09	SW8021B	55800 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR
Ethylbenzene	09	SW8021B	56800 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR
m+p-Xylenes	09	SW8021B	187000 ug/kg		495	50	12/29/23 00:00	12/29/23 17:37	JWR
o-Xylene	09	SW8021B	105000 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR
Xylenes, Total	09	SW8021B	292000 ug/kg		743	50	12/29/23 00:00	12/29/23 17:37	JWR
Naphthalene	09	SW8021B	47800 ug/kg		248	50	12/29/23 00:00	12/29/23 17:37	JWR

Surr: 2,5-Dibromotoluene (Surr PID)	09	SW8021B	102 %	S	80-120		12/29/23 00:00	12/29/23 17:37	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	09RE2	SW8015C	2660 mg/kg		9.90	100	01/02/24 14:38	01/02/24 14:38	JWR

Surr: 2,5-Dibromotoluene (Surr FID)	09RE2	SW8015C	181 %	S	80-120		01/02/24 14:38	01/02/24 14:38	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	09RE1	SW8015C	2720 mg/kg		495	50	12/27/23 15:20	12/29/23 10:13	LBH2

Surr: n-Triacontane (Surr)	09RE1	SW8015C	54.6 %		50-125		12/27/23 15:20	12/29/23 10:13	LBH2



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-8 @ 34-36' Laboratory Sample ID: 23L1349-10
 Grab Date/Time: 12/22/2023 13:50
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC									
Methyl-t-butyl ether (MTBE)	10	SW8021B	<246 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
Benzene	10	SW8021B	760 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
Toluene	10	SW8021B	72000 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
Ethylbenzene	10	SW8021B	51800 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
m+p-Xylenes	10	SW8021B	148000 ug/kg		492	50	12/29/23 00:00	12/29/23 18:22	JWR
o-Xylene	10	SW8021B	76900 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
Xylenes, Total	10	SW8021B	225000 ug/kg		738	50	12/29/23 00:00	12/29/23 18:22	JWR
Naphthalene	10	SW8021B	30300 ug/kg		246	50	12/29/23 00:00	12/29/23 18:22	JWR
Surr: 2,5-Dibromotoluene (Surr PID)	10	SW8021B	89.8 %		80-120		12/29/23 00:00	12/29/23 18:22	JWR
Volatile Hydrocarbons by GC									
TPH-Volatiles (GRO)	10RE1	SW8015C	1650 mg/kg		4.92	50	12/29/23 00:00	12/29/23 18:22	JWR
Surr: 2,5-Dibromotoluene (Surr FID)	10RE1	SW8015C	161 %	S	80-120		12/29/23 00:00	12/29/23 18:22	JWR
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	10RE1	SW8015C	1490 mg/kg		100	10	12/27/23 15:20	12/29/23 10:34	LBH2
Surr: n-Triacontane (Surr)	10RE1	SW8015C	66.5 %		50-125		12/27/23 15:20	12/29/23 10:34	LBH2



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. B-1 @ 12' Laboratory Sample ID: 23L1349-11
 Grab Date/Time: 12/22/2023 09:35
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	11	SW8015C	296 mg/kg		10.0	1	12/27/23 15:20	12/28/23 23:23	LBH2
Surr: n-Triacontane (Surr)	11	SW8015C	83.7 %		50-125		12/27/23 15:20	12/28/23 23:23	LBH2



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Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	12	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1,1-Trichloroethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1,2,2-Tetrachloroethane	12	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1,2-Trichloroethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1-Dichloroethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1-Dichloroethylene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,1-Dichloropropene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2,3-Trichlorobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2,3-Trichloropropane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2,4-Trichlorobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2,4-Trimethylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2-Dibromo-3-chloropropane (DBCP)	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2-Dibromoethane (EDB)	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2-Dichlorobenzene	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2-Dichloroethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,2-Dichloropropane	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
1,3,5-Trimethylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,3-Dichlorobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,3-Dichloropropane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
1,4-Dichlorobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
2,2-Dichloropropane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
2-Butanone (MEK)	12	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:01	12/26/23 20:01	RJB
2-Chlorotoluene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
2-Hexanone (MBK)	12	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:01	12/26/23 20:01	RJB
4-Chlorotoluene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB



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Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
4-Methyl-2-pentanone (MIBK)	12	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Acetone	12	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:01	12/26/23 20:01	RJB
Benzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Bromobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Bromochloromethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Bromodichloromethane	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
Bromoform	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Bromomethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Carbon disulfide	12	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:01	12/26/23 20:01	RJB
Carbon tetrachloride	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Chlorobenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Chloroethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Chloroform	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
Chloromethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
cis-1,2-Dichloroethylene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
cis-1,3-Dichloropropene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Dibromochloromethane	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
Dibromomethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Dichlorodifluoromethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Di-isopropyl ether (DIPE)	12	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Ethylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Hexachlorobutadiene	12	SW8260D	<0.80 ug/L		0.80	1	12/26/23 20:01	12/26/23 20:01	RJB
Iodomethane	12	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:01	12/26/23 20:01	RJB
Isopropylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
m+p-Xylenes	12	SW8260D	<2.00 ug/L		2.00	1	12/26/23 20:01	12/26/23 20:01	RJB



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 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	12	SW8260D	<4.00 ug/L		4.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Methyl-t-butyl ether (MTBE)	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Naphthalene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
n-Butylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
n-Propylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
o-Xylene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
sec-Butylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Styrene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
tert-Butylbenzene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Tetrachloroethylene (PCE)	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Toluene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
trans-1,2-Dichloroethylene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
trans-1,3-Dichloropropene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Trichloroethylene	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Trichlorofluoromethane	12	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Vinyl acetate	12	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:01	12/26/23 20:01	RJB
Vinyl chloride	12	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:01	12/26/23 20:01	RJB
Xylenes, Total	12	SW8260D	<3.00 ug/L		3.00	1	12/26/23 20:01	12/26/23 20:01	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	12	SW8260D	110 %		70-120		12/26/23 20:01	12/26/23 20:01	RJB
Surr: 4-Bromofluorobenzene (Surr)	12	SW8260D	90.5 %		75-120		12/26/23 20:01	12/26/23 20:01	RJB
Surr: Dibromofluoromethane (Surr)	12	SW8260D	112 %		70-130		12/26/23 20:01	12/26/23 20:01	RJB
Surr: Toluene-d8 (Surr)	12	SW8260D	99.9 %		70-130		12/26/23 20:01	12/26/23 20:01	RJB

Semivolatile Organic Compounds by GCMS



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 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1,2,4-Trichlorobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1,2-Dichlorobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1,2-Diphenylhydrazine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1,3-Dichlorobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1,3-Dinitrobenzene	12	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 19:08	BMS
1,4-Dichlorobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
1-Naphthylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,3,4,6-Tetrachlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4,5-Trichlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4,6-Trichlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4-Dichlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4-Dimethylphenol	12	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4-Dinitrophenol	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,4-Dinitrotoluene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,6-Dichlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,6-Dinitrotoluene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Chloronaphthalene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Chlorophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Methylnaphthalene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Naphthylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Nitroaniline	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2-Nitrophenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
3,3'-Dichlorobenzidine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
3-Methylcholanthrene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
3-Nitroaniline	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS



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Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgcrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Aminobiphenyl	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Bromophenyl phenyl ether	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Chloroaniline	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Chlorophenyl phenyl ether	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Nitroaniline	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
4-Nitrophenol	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
7,12-Dimethylbenz (a) anthracene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Acenaphthene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Acenaphthylene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Acetophenone	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Aniline	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Anthracene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzidine	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzo (a) anthracene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzo (a) pyrene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzo (b) fluoranthene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzo (g,h,i) perylene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzo (k) fluoranthene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzoic acid	12	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Benzyl alcohol	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
bis (2-Chloroethoxy) methane	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
bis (2-Chloroethyl) ether	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
2,2'-Oxybis (1-chloropropane)	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
bis (2-Ethylhexyl) phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest	Laboratory Sample ID: 23L1349-12
Grab Date/Time: 12/22/2023 15:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Chrysene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Dibenz (a,h) anthracene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Dibenz (a,j) acridine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Dibenzofuran	12	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:08	BMS
Diethyl phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Dimethyl phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Di-n-butyl phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Di-n-octyl phthalate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Diphenylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Ethyl methanesulfonate	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Fluoranthene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Fluorene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Hexachlorobenzene	12	SW8270E	<1.00 ug/L		1.00	1	12/27/23 08:55	12/27/23 19:08	BMS
Hexachlorobutadiene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Hexachlorocyclopentadiene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Hexachloroethane	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Indeno (1,2,3-cd) pyrene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Isophorone	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
m+p-Cresols	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Methyl methanesulfonate	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Naphthalene	12	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:08	BMS
Nitrobenzene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
n-Nitrosodimethylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
n-Nitrosodi-n-butylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
n-Nitrosodi-n-propylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 350 Ridgecrest

Laboratory Sample ID: 23L1349-12

Grab Date/Time: 12/22/2023 15:30

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
n-Nitrosopiperidine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
o+m+p-Cresols	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
o-Cresol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
p-(Dimethylamino) azobenzene	12	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 19:08	BMS
p-Chloro-m-cresol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Pentachloronitrobenzene (quintozene)	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Pentachlorophenol	12	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Phenacetin	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Phenanthrene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Phenol	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Pronamide	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Pyrene	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Pyridine	12	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:08	BMS
Surr: 2,4,6-Tribromophenol (Surr)	12	SW8270E	24.6 %		5-136		12/27/23 08:55	12/27/23 19:08	BMS
Surr: 2-Fluorobiphenyl (Surr)	12	SW8270E	22.4 %		9-117		12/27/23 08:55	12/27/23 19:08	BMS
Surr: 2-Fluorophenol (Surr)	12	SW8270E	14.9 %		5-60		12/27/23 08:55	12/27/23 19:08	BMS
Surr: Nitrobenzene-d5 (Surr)	12	SW8270E	24.0 %		5-151		12/27/23 08:55	12/27/23 19:08	BMS
Surr: Phenol-d5 (Surr)	12	SW8270E	8.69 %		5-60		12/27/23 08:55	12/27/23 19:08	BMS
Surr: p-Terphenyl-d14 (Surr)	12	SW8270E	29.0 %		5-141		12/27/23 08:55	12/27/23 19:08	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove	Laboratory Sample ID: 23L1349-13
Grab Date/Time: 12/22/2023 09:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	13	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1,1-Trichloroethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1,2,2-Tetrachloroethane	13	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1,2-Trichloroethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1-Dichloroethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1-Dichloroethylene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,1-Dichloropropene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2,3-Trichlorobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2,3-Trichloropropane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2,4-Trichlorobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2,4-Trimethylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2-Dibromo-3-chloropropane (DBCP)	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2-Dibromoethane (EDB)	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2-Dichlorobenzene	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2-Dichloroethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,2-Dichloropropane	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
1,3,5-Trimethylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,3-Dichlorobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,3-Dichloropropane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
1,4-Dichlorobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
2,2-Dichloropropane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
2-Butanone (MEK)	13	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:27	12/26/23 20:27	RJB
2-Chlorotoluene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
2-Hexanone (MBK)	13	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:27	12/26/23 20:27	RJB
4-Chlorotoluene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove Laboratory Sample ID: 23L1349-13
 Grab Date/Time: 12/22/2023 09:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
4-Methyl-2-pentanone (MIBK)	13	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Acetone	13	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:27	12/26/23 20:27	RJB
Benzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Bromobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Bromochloromethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Bromodichloromethane	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
Bromoform	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Bromomethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Carbon disulfide	13	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:27	12/26/23 20:27	RJB
Carbon tetrachloride	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Chlorobenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Chloroethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Chloroform	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
Chloromethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
cis-1,2-Dichloroethylene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
cis-1,3-Dichloropropene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Dibromochloromethane	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
Dibromomethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Dichlorodifluoromethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Di-isopropyl ether (DIPE)	13	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Ethylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Hexachlorobutadiene	13	SW8260D	<0.80 ug/L		0.80	1	12/26/23 20:27	12/26/23 20:27	RJB
Iodomethane	13	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:27	12/26/23 20:27	RJB
Isopropylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
m+p-Xylenes	13	SW8260D	<2.00 ug/L		2.00	1	12/26/23 20:27	12/26/23 20:27	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove Laboratory Sample ID: 23L1349-13
 Grab Date/Time: 12/22/2023 09:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	13	SW8260D	<4.00 ug/L		4.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Methyl-t-butyl ether (MTBE)	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Naphthalene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
n-Butylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
n-Propylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
o-Xylene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
sec-Butylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Styrene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
tert-Butylbenzene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Tetrachloroethylene (PCE)	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Toluene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
trans-1,2-Dichloroethylene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
trans-1,3-Dichloropropene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Trichloroethylene	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Trichlorofluoromethane	13	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Vinyl acetate	13	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:27	12/26/23 20:27	RJB
Vinyl chloride	13	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:27	12/26/23 20:27	RJB
Xylenes, Total	13	SW8260D	<3.00 ug/L		3.00	1	12/26/23 20:27	12/26/23 20:27	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	13	SW8260D	98.6 %		70-120		12/26/23 20:27	12/26/23 20:27	RJB
Surr: 4-Bromofluorobenzene (Surr)	13	SW8260D	93.5 %		75-120		12/26/23 20:27	12/26/23 20:27	RJB
Surr: Dibromofluoromethane (Surr)	13	SW8260D	111 %		70-130		12/26/23 20:27	12/26/23 20:27	RJB
Surr: Toluene-d8 (Surr)	13	SW8260D	97.6 %		70-130		12/26/23 20:27	12/26/23 20:27	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove Laboratory Sample ID: 23L1349-13

Grab Date/Time: 12/22/2023 09:15

Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1,2,4-Trichlorobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1,2-Dichlorobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1,2-Diphenylhydrazine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1,3-Dichlorobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1,3-Dinitrobenzene	13	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 19:38	BMS
1,4-Dichlorobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
1-Naphthylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,3,4,6-Tetrachlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4,5-Trichlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4,6-Trichlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4-Dichlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4-Dimethylphenol	13	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4-Dinitrophenol	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,4-Dinitrotoluene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,6-Dichlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,6-Dinitrotoluene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Chloronaphthalene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Chlorophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Methylnaphthalene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Naphthylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Nitroaniline	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2-Nitrophenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
3,3'-Dichlorobenzidine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
3-Methylcholanthrene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
3-Nitroaniline	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove	Laboratory Sample ID: 23L1349-13
Grab Date/Time: 12/22/2023 09:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Aminobiphenyl	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Bromophenyl phenyl ether	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Chloroaniline	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Chlorophenyl phenyl ether	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Nitroaniline	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
4-Nitrophenol	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
7,12-Dimethylbenz (a) anthracene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Acenaphthene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Acenaphthylene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Acetophenone	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Aniline	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Anthracene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzidine	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzo (a) anthracene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzo (a) pyrene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzo (b) fluoranthene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzo (g,h,i) perylene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzo (k) fluoranthene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzoic acid	13	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Benzyl alcohol	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
bis (2-Chloroethoxy) methane	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
bis (2-Chloroethyl) ether	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
2,2'-Oxybis (1-chloropropane)	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
bis (2-Ethylhexyl) phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove	Laboratory Sample ID: 23L1349-13
Grab Date/Time: 12/22/2023 09:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Chrysene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Dibenz (a,h) anthracene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Dibenz (a,j) acridine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Dibenzofuran	13	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:38	BMS
Diethyl phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Dimethyl phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Di-n-butyl phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Di-n-octyl phthalate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Diphenylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Ethyl methanesulfonate	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Fluoranthene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Fluorene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Hexachlorobenzene	13	SW8270E	<1.00 ug/L		1.00	1	12/27/23 08:55	12/27/23 19:38	BMS
Hexachlorobutadiene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Hexachlorocyclopentadiene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Hexachloroethane	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Indeno (1,2,3-cd) pyrene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Isophorone	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
m+p-Cresols	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Methyl methanesulfonate	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Naphthalene	13	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 19:38	BMS
Nitrobenzene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
n-Nitrosodimethylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
n-Nitrosodi-n-butylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
n-Nitrosodi-n-propylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 1987 Cooper Cove Laboratory Sample ID: 23L1349-13
 Grab Date/Time: 12/22/2023 09:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
n-Nitrosopiperidine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
o+m+p-Cresols	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
o-Cresol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
p-(Dimethylamino) azobenzene	13	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 19:38	BMS
p-Chloro-m-cresol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Pentachloronitrobenzene (quintozene)	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Pentachlorophenol	13	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Phenacetin	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Phenanthrene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Phenol	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Pronamide	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Pyrene	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Pyridine	13	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 19:38	BMS
Surr: 2,4,6-Tribromophenol (Surr)	13	SW8270E	61.9 %		5-136		12/27/23 08:55	12/27/23 19:38	BMS
Surr: 2-Fluorobiphenyl (Surr)	13	SW8270E	74.5 %		9-117		12/27/23 08:55	12/27/23 19:38	BMS
Surr: 2-Fluorophenol (Surr)	13	SW8270E	39.1 %		5-60		12/27/23 08:55	12/27/23 19:38	BMS
Surr: Nitrobenzene-d5 (Surr)	13	SW8270E	72.3 %		5-151		12/27/23 08:55	12/27/23 19:38	BMS
Surr: Phenol-d5 (Surr)	13	SW8270E	22.7 %		5-60		12/27/23 08:55	12/27/23 19:38	BMS
Surr: p-Terphenyl-d14 (Surr)	13	SW8270E	58.7 %		5-141		12/27/23 08:55	12/27/23 19:38	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court	Laboratory Sample ID: 23L1349-14
Grab Date/Time: 12/22/2023 09:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	14	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1,1-Trichloroethane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1,2,2-Tetrachloroethane	14	SW8260D	<0.40 ug/L		0.40	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1,2-Trichloroethane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1-Dichloroethane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1-Dichloroethylene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,1-Dichloropropene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2,3-Trichlorobenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2,3-Trichloropropane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2,4-Trichlorobenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2,4-Trimethylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2-Dibromo-3-chloropropane (DBCP)	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2-Dibromoethane (EDB)	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2-Dichlorobenzene	14	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2-Dichloroethane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,2-Dichloropropane	14	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:52	12/26/23 20:52	RJB
1,3,5-Trimethylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,3-Dichlorobenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,3-Dichloropropane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
1,4-Dichlorobenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
2,2-Dichloropropane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
2-Butanone (MEK)	14	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:52	12/26/23 20:52	RJB
2-Chlorotoluene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
2-Hexanone (MBK)	14	SW8260D	<5.00 ug/L		5.00	1	12/26/23 20:52	12/26/23 20:52	RJB
4-Chlorotoluene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court

Laboratory Sample ID: 23L1349-14

Grab Date/Time: 12/22/2023 09:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
4-Methyl-2-pentanone (MIBK)	14	SW8260D	<5.00 ug/L	5.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Acetone	14	SW8260D	<10.0 ug/L	10.0	1	12/26/23 20:52	12/26/23 20:52	RJB	
Benzene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Bromobenzene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Bromochloromethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Bromodichloromethane	14	SW8260D	<0.50 ug/L	0.50	1	12/26/23 20:52	12/26/23 20:52	RJB	
Bromoform	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Bromomethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Carbon disulfide	14	SW8260D	<10.0 ug/L	10.0	1	12/26/23 20:52	12/26/23 20:52	RJB	
Carbon tetrachloride	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Chlorobenzene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Chloroethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Chloroform	14	SW8260D	<0.50 ug/L	0.50	1	12/26/23 20:52	12/26/23 20:52	RJB	
Chloromethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
cis-1,2-Dichloroethylene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
cis-1,3-Dichloropropene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Dibromochloromethane	14	SW8260D	<0.50 ug/L	0.50	1	12/26/23 20:52	12/26/23 20:52	RJB	
Dibromomethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Dichlorodifluoromethane	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Di-isopropyl ether (DIPE)	14	SW8260D	<5.00 ug/L	5.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Ethylbenzene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
Hexachlorobutadiene	14	SW8260D	<0.80 ug/L	0.80	1	12/26/23 20:52	12/26/23 20:52	RJB	
Iodomethane	14	SW8260D	<10.0 ug/L	10.0	1	12/26/23 20:52	12/26/23 20:52	RJB	
Isopropylbenzene	14	SW8260D	<1.00 ug/L	1.00	1	12/26/23 20:52	12/26/23 20:52	RJB	
m+p-Xylenes	14	SW8260D	<2.00 ug/L	2.00	1	12/26/23 20:52	12/26/23 20:52	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court	Laboratory Sample ID: 23L1349-14
Grab Date/Time: 12/22/2023 09:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	14	SW8260D	<4.00 ug/L		4.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Methyl-t-butyl ether (MTBE)	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Naphthalene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
n-Butylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
n-Propylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
o-Xylene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
sec-Butylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Styrene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
tert-Butylbenzene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Tetrachloroethylene (PCE)	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Toluene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
trans-1,2-Dichloroethylene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
trans-1,3-Dichloropropene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Trichloroethylene	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Trichlorofluoromethane	14	SW8260D	<1.00 ug/L		1.00	1	12/26/23 20:52	12/26/23 20:52	RJB
Vinyl acetate	14	SW8260D	<10.0 ug/L		10.0	1	12/26/23 20:52	12/26/23 20:52	RJB
Vinyl chloride	14	SW8260D	<0.50 ug/L		0.50	1	12/26/23 20:52	12/26/23 20:52	RJB
Xylenes, Total	14	SW8260D	<3.00 ug/L		3.00	1	12/26/23 20:52	12/26/23 20:52	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	14	SW8260D	114 %		70-120		12/26/23 20:52	12/26/23 20:52	RJB
Surr: 4-Bromofluorobenzene (Surr)	14	SW8260D	90.2 %		75-120		12/26/23 20:52	12/26/23 20:52	RJB
Surr: Dibromofluoromethane (Surr)	14	SW8260D	110 %		70-130		12/26/23 20:52	12/26/23 20:52	RJB
Surr: Toluene-d8 (Surr)	14	SW8260D	99.6 %		70-130		12/26/23 20:52	12/26/23 20:52	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court

Laboratory Sample ID: 23L1349-14

Grab Date/Time: 12/22/2023 09:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1,2,4-Trichlorobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1,2-Dichlorobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1,2-Diphenylhydrazine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1,3-Dichlorobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1,3-Dinitrobenzene	14	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 20:07	BMS
1,4-Dichlorobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
1-Naphthylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,3,4,6-Tetrachlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4,5-Trichlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4,6-Trichlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4-Dichlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4-Dimethylphenol	14	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4-Dinitrophenol	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,4-Dinitrotoluene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,6-Dichlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,6-Dinitrotoluene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Chloronaphthalene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Chlorophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Methylnaphthalene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Naphthylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Nitroaniline	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2-Nitrophenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
3,3'-Dichlorobenzidine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
3-Methylcholanthrene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
3-Nitroaniline	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court	Laboratory Sample ID: 23L1349-14
Grab Date/Time: 12/22/2023 09:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Aminobiphenyl	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Bromophenyl phenyl ether	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Chloroaniline	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Chlorophenyl phenyl ether	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Nitroaniline	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
4-Nitrophenol	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
7,12-Dimethylbenz (a) anthracene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Acenaphthene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Acenaphthylene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Acetophenone	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Aniline	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Anthracene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzidine	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzo (a) anthracene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzo (a) pyrene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzo (b) fluoranthene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzo (g,h,i) perylene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzo (k) fluoranthene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzoic acid	14	SW8270E	<50.0 ug/L		50.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Benzyl alcohol	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
bis (2-Chloroethoxy) methane	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
bis (2-Chloroethyl) ether	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
2,2'-Oxybis (1-chloropropane)	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
bis (2-Ethylhexyl) phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court

Laboratory Sample ID: 23L1349-14

Grab Date/Time: 12/22/2023 09:00

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Chrysene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Dibenz (a,h) anthracene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Dibenz (a,j) acridine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Dibenzofuran	14	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 20:07	BMS
Diethyl phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Dimethyl phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Di-n-butyl phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Di-n-octyl phthalate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Diphenylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Ethyl methanesulfonate	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Fluoranthene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Fluorene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Hexachlorobenzene	14	SW8270E	<1.00 ug/L		1.00	1	12/27/23 08:55	12/27/23 20:07	BMS
Hexachlorobutadiene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Hexachlorocyclopentadiene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Hexachloroethane	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Indeno (1,2,3-cd) pyrene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Isophorone	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
m+p-Cresols	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Methyl methanesulfonate	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Naphthalene	14	SW8270E	<5.00 ug/L		5.00	1	12/27/23 08:55	12/27/23 20:07	BMS
Nitrobenzene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
n-Nitrosodimethylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
n-Nitrosodi-n-butylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
n-Nitrosodi-n-propylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS



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Certificate of Analysis

Final Report

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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. 76 Patsel Court

Laboratory Sample ID: 23L1349-14

Grab Date/Time: 12/22/2023 09:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
n-Nitrosopiperidine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
o+m+p-Cresols	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
o-Cresol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
p-(Dimethylamino) azobenzene	14	SW8270E	<2.50 ug/L		2.50	1	12/27/23 08:55	12/27/23 20:07	BMS
p-Chloro-m-cresol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Pentachloronitrobenzene (quintozene)	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Pentachlorophenol	14	SW8270E	<20.0 ug/L		20.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Phenacetin	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Phenanthrene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Phenol	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Pronamide	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Pyrene	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Pyridine	14	SW8270E	<10.0 ug/L		10.0	1	12/27/23 08:55	12/27/23 20:07	BMS
Surr: 2,4,6-Tribromophenol (Surr)	14	SW8270E	75.8 %		5-136		12/27/23 08:55	12/27/23 20:07	BMS
Surr: 2-Fluorobiphenyl (Surr)	14	SW8270E	62.7 %		9-117		12/27/23 08:55	12/27/23 20:07	BMS
Surr: 2-Fluorophenol (Surr)	14	SW8270E	40.3 %		5-60		12/27/23 08:55	12/27/23 20:07	BMS
Surr: Nitrobenzene-d5 (Surr)	14	SW8270E	70.2 %		5-151		12/27/23 08:55	12/27/23 20:07	BMS
Surr: Phenol-d5 (Surr)	14	SW8270E	23.7 %		5-60		12/27/23 08:55	12/27/23 20:07	BMS
Surr: p-Terphenyl-d14 (Surr)	14	SW8270E	55.9 %		5-141		12/27/23 08:55	12/27/23 20:07	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 23L1349-15
Grab Date/Time: 12/08/2023 12:57	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	15	SW8260D	<0.40 ug/L		0.40	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1,1-Trichloroethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1,2,2-Tetrachloroethane	15	SW8260D	<0.40 ug/L		0.40	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1,2-Trichloroethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1-Dichloroethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1-Dichloroethylene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,1-Dichloropropene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2,3-Trichlorobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2,3-Trichloropropane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2,4-Trichlorobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2,4-Trimethylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2-Dibromo-3-chloropropane (DBCP)	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2-Dibromoethane (EDB)	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2-Dichlorobenzene	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2-Dichloroethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,2-Dichloropropane	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
1,3,5-Trimethylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,3-Dichlorobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,3-Dichloropropane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
1,4-Dichlorobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
2,2-Dichloropropane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
2-Butanone (MEK)	15	SW8260D	<10.0 ug/L		10.0	1	12/26/23 16:37	12/26/23 16:37	RJB
2-Chlorotoluene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
2-Hexanone (MBK)	15	SW8260D	<5.00 ug/L		5.00	1	12/26/23 16:37	12/26/23 16:37	RJB
4-Chlorotoluene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L1349-15
 Grab Date/Time: 12/08/2023 12:57
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
4-Methyl-2-pentanone (MIBK)	15	SW8260D	<5.00 ug/L		5.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Acetone	15	SW8260D	<10.0 ug/L		10.0	1	12/26/23 16:37	12/26/23 16:37	RJB
Benzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Bromobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Bromochloromethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Bromodichloromethane	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
Bromoform	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Bromomethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Carbon disulfide	15	SW8260D	<10.0 ug/L		10.0	1	12/26/23 16:37	12/26/23 16:37	RJB
Carbon tetrachloride	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Chlorobenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Chloroethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Chloroform	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
Chloromethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
cis-1,2-Dichloroethylene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
cis-1,3-Dichloropropene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Dibromochloromethane	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
Dibromomethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Dichlorodifluoromethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Di-isopropyl ether (DIPE)	15	SW8260D	<5.00 ug/L		5.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Ethylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Hexachlorobutadiene	15	SW8260D	<0.80 ug/L		0.80	1	12/26/23 16:37	12/26/23 16:37	RJB
Iodomethane	15	SW8260D	<10.0 ug/L		10.0	1	12/26/23 16:37	12/26/23 16:37	RJB
Isopropylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
m+p-Xylenes	15	SW8260D	<2.00 ug/L		2.00	1	12/26/23 16:37	12/26/23 16:37	RJB



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Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. Trip Blank Laboratory Sample ID: 23L1349-15
 Grab Date/Time: 12/08/2023 12:57
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	15	SW8260D	<4.00 ug/L		4.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Methyl-t-butyl ether (MTBE)	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Naphthalene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
n-Butylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
n-Propylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
o-Xylene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
sec-Butylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Styrene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
tert-Butylbenzene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Tetrachloroethylene (PCE)	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Toluene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
trans-1,2-Dichloroethylene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
trans-1,3-Dichloropropene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Trichloroethylene	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Trichlorofluoromethane	15	SW8260D	<1.00 ug/L		1.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Vinyl acetate	15	SW8260D	<10.0 ug/L		10.0	1	12/26/23 16:37	12/26/23 16:37	RJB
Vinyl chloride	15	SW8260D	<0.50 ug/L		0.50	1	12/26/23 16:37	12/26/23 16:37	RJB
Xylenes, Total	15	SW8260D	<3.00 ug/L		3.00	1	12/26/23 16:37	12/26/23 16:37	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	15	SW8260D	111 %		70-120		12/26/23 16:37	12/26/23 16:37	RJB
Surr: 4-Bromofluorobenzene (Surr)	15	SW8260D	91.1 %		75-120		12/26/23 16:37	12/26/23 16:37	RJB
Surr: Dibromofluoromethane (Surr)	15	SW8260D	113 %		70-130		12/26/23 16:37	12/26/23 16:37	RJB
Surr: Toluene-d8 (Surr)	15	SW8260D	98.7 %		70-130		12/26/23 16:37	12/26/23 16:37	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Laboratory Order ID: 23L1349

Analytical Results

Sample I.D. Holland HO @ 90'	Laboratory Sample ID: 23L1349-16
Grab Date/Time: 12/22/2023 14:30	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Hydrocarbons by GC									
TPH-Semi-Volatiles (DRO)	16	SW8015C	<10.0 mg/kg		10.0	1	12/27/23 15:20	12/28/23 23:44	LBH2
Surr: n-Triacontane (Surr)	16	SW8015C	52.9 %		50-125		12/27/23 15:20	12/28/23 23:44	LBH2



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 03, 2024 17:05
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Petroleum Release		

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatle Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23L1349-12	1070 mL / 1.00 mL	SW8270E	BGL1004	SGL1017	AK30271
23L1349-13	1020 mL / 1.00 mL	SW8270E	BGL1004	SGL1017	AK30271
23L1349-14	1030 mL / 1.00 mL	SW8270E	BGL1004	SGL1017	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatle Hydrocarbons by GC		Preparation Method: SW3550C/EPA600-FID			
23L1349-01	51.0 g / 2.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-01RE1	51.0 g / 2.00 mL	SW8015C	BGL1107	SHA0064	AL30311
23L1349-02	50.1 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-03	50.2 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-04	50.0 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-05	50.3 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-06	50.3 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-07	50.1 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-07RE1	50.1 g / 1.00 mL	SW8015C	BGL1107	SHA0064	AL30311
23L1349-08	50.0 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-08RE1	50.0 g / 1.00 mL	SW8015C	BGL1107	SHA0064	AL30311
23L1349-09	50.5 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-09RE1	50.5 g / 1.00 mL	SW8015C	BGL1107	SHA0064	AL30311
23L1349-10	50.0 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-10RE1	50.0 g / 1.00 mL	SW8015C	BGL1107	SHA0064	AL30311
23L1349-11	51.3 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
23L1349-16	51.3 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Hydrocarbons by GC		Preparation Method: SW5030B-GC			
23L1349-02	5.04 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-03	5.00 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-04	5.08 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
23L1349-05	5.03 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-06	5.08 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-07	5.06 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-08	1.05 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-09	1.09 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
23L1349-10	1.09 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229

Volatile Hydrocarbons by GC

Preparation Method: **SW5030B-GC**

23L1349-07RE1	5.08 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
23L1349-08RE1	5.10 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
23L1349-09RE1	5.05 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
23L1349-10RE1	5.08 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
23L1349-02	5.12 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-03	5.10 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-04	5.08 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-05	5.03 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-06	5.05 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-07	5.08 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-08	5.10 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-09	5.05 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
23L1349-10	5.08 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229

Volatile Hydrocarbons by GC

Preparation Method: **SW5030B-GC**

23L1349-07RE2	5.08 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229
23L1349-09RE2	5.05 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23L1349-12	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
23L1349-13	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
23L1349-14	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
23L1349-15	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method: SW3510C/EPA600-MS		
BGL1004-BLK1	1000 mL / 1.00 mL	SW8270E	BGL1004	SGL1017	AK30271
BGL1004-BLK2	1000 mL / 1.00 mL	SW8270E	BGL1004	SGL1033	AK30275
BGL1004-BS1	1000 mL / 1.00 mL	SW8270E	BGL1004	SGL1017	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Hydrocarbons by GC			Preparation Method: SW3550C/EPA600-FID		
BGL1107-BLK1	50.0 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
BGL1107-BS1	50.7 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
BGL1107-MS1	50.1 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311
BGL1107-MSD1	50.2 g / 1.00 mL	SW8015C	BGL1107	SGL1057	AL30311

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Hydrocarbons by GC			Preparation Method: SW5030B-GC		
BGL1010-BLK1	5.00 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
BGL1010-BS1	5.00 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
BGL1010-MS1	1.01 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
BGL1010-MSD1	1.14 g / 5.00 mL	SW8015C	BGL1010	SGL0940	AL30229
BGL1108-BLK1	5.00 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
BGL1108-BS1	5.00 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
BGL1108-MS1	5.12 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
BGL1108-MSD1	5.15 g / 5.00 mL	SW8015C	BGL1108	SGL1027	AL30229
BGL1108-BLK1	5.00 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
BGL1108-BS1	5.00 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
BGL1108-MS1	5.12 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
BGL1108-MSD1	5.15 g / 5.00 mL	SW8021B	BGL1108	SGL1027	AL30229
BGL1118-BLK1	5.00 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229
BGL1118-BS1	5.00 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229
BGL1118-MS1	5.03 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Hydrocarbons by GC			Preparation Method:	SW5030B-GC	
BGL1118-MSD1	5.16 g / 5.00 mL	SW8015C	BGL1118	SHA0044	AL30229
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL1031-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
BGL1031-BS1	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
BGL1031-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250
BGL1031-MS1	5.00 mL / 5.00 mL	SW8260D	BGL1031	SGL0941	AL30250



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Volatile Organic Compounds by GC - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1108 - SW5030B-GC

Blank (BGL1108-BLK1)

Prepared & Analyzed: 12/29/2023

Methyl-t-butyl ether (MTBE)	<5.00 ug/kg	5.00	ug/kg							
Benzene	<5.00 ug/kg	5.00	ug/kg							
Toluene	<5.00 ug/kg	5.00	ug/kg							
Ethylbenzene	<5.00 ug/kg	5.00	ug/kg							
m+p-Xylenes	<10.0 ug/kg	10.0	ug/kg							
o-Xylene	<5.00 ug/kg	5.00	ug/kg							
Xylenes, Total	<15.0 ug/kg	15.0	ug/kg							
Naphthalene	<5.00 ug/kg	5.00	ug/kg							
<hr/>										
Surr: 2,5-Dibromotoluene (Surr PID)	91.7		ug/L	100		91.7	80-120			

LCS (BGL1108-BS1)

Prepared & Analyzed: 12/29/2023

Methyl-t-butyl ether (MTBE)	97.9 ug/kg	5.00	ug/kg	100	ug/kg	97.9	70-130			
Benzene	102 ug/kg	5.00	ug/kg	100	ug/kg	102	70-130			
Toluene	94.9 ug/kg	5.00	ug/kg	100	ug/kg	94.9	70-130			
Ethylbenzene	108 ug/kg	5.00	ug/kg	100	ug/kg	108	70-130			
m+p-Xylenes	209 ug/kg	10.0	ug/kg	200	ug/kg	104	70-130			
o-Xylene	100 ug/kg	5.00	ug/kg	100	ug/kg	100	70-130			
Naphthalene	106 ug/kg	5.00	ug/kg	100	ug/kg	106	70-130			
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Surr: 2,5-Dibromotoluene (Surr PID)	95.4		ug/L	100	ug/L	95.4	80-120			

Matrix Spike (BGL1108-MS1)

Source: 23L1387-01

Prepared & Analyzed: 12/29/2023

Methyl-t-butyl ether (MTBE)	79.0 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	80.9	70-130			
Benzene	87.0 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	89.1	70-130			
Toluene	81.8 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	83.8	70-130			
Ethylbenzene	94.0 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	96.2	70-130			
m+p-Xylenes	185 ug/kg	10.0	ug/kg	195	<10.0 ug/kg	94.7	70-130			
o-Xylene	88.8 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	90.9	70-130			
Naphthalene	86.9 ug/kg	5.00	ug/kg	97.7	<5.00 ug/kg	89.0	70-130			
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Surr: 2,5-Dibromotoluene (Surr PID)	84.8		ug/L	100	ug/L	84.8	80-120			



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Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Volatile Organic Compounds by GC - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1108 - SW5030B-GC

Matrix Spike Dup (BGL1108-MSD1)

Source: 23L1387-01

Prepared & Analyzed: 12/29/2023

Methyl-t-butyl ether (MTBE)	75.8 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	78.1	70-130	4.04	20	
Benzene	83.2 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	85.7	70-130	4.41	20	
Toluene	77.8 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	80.1	70-130	5.10	20	
Ethylbenzene	88.8 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	91.5	70-130	5.65	20	
m+p-Xylenes	173 ug/kg	10.0	ug/kg	194	<10.0 ug/kg	89.1	70-130	6.60	20	
o-Xylene	83.2 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	85.7	70-130	6.54	20	
Naphthalene	80.1 ug/kg	5.00	ug/kg	97.1	<5.00 ug/kg	82.5	70-130	8.18	20	
Surr: 2,5-Dibromotoluene (Surr PID)	85.8		ug/L	100	ug/L	85.8	80-120			



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Volatile Hydrocarbons by GC - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1010 - SW5030B-GC

Blank (BGL1010-BLK1)

Prepared & Analyzed: 12/26/2023

TPH-Volatiles (GRO)	<0.10 mg/kg	0.10	mg/kg							
Surr: 2,5-Dibromotoluene (Surr FID)	109		ug/L	100		109	80-120			

LCS (BGL1010-BS1)

Prepared & Analyzed: 12/26/2023

TPH-Volatiles (GRO)	1.11 mg/kg	0.10	mg/kg	1.00	mg/kg	111	70-130			
Surr: 2,5-Dibromotoluene (Surr FID)	105		ug/L	100	ug/L	105	80-120			

Matrix Spike (BGL1010-MS1)

Source: 23L1349-10

Prepared & Analyzed: 12/27/2023

TPH-Volatiles (GRO)	770 mg/kg	0.50	mg/kg	4.95	1100 mg/kg	-6680	70-130		20	M
Surr: 2,5-Dibromotoluene (Surr FID)	263		ug/L	100	ug/L	263	80-120			S

Matrix Spike Dup (BGL1010-MSD1)

Source: 23L1349-10

Prepared & Analyzed: 12/27/2023

TPH-Volatiles (GRO)	769 mg/kg	0.44	mg/kg	4.39	1100 mg/kg	-7550	70-130	0.0853	20	M
Surr: 2,5-Dibromotoluene (Surr FID)	259		ug/L	100	ug/L	259	80-120			S

Batch BGL1108 - SW5030B-GC

Blank (BGL1108-BLK1)

Prepared & Analyzed: 12/29/2023

TPH-Volatiles (GRO)	<0.10 mg/kg	0.10	mg/kg							
Surr: 2,5-Dibromotoluene (Surr FID)	109		ug/L	100		109	80-120			

LCS (BGL1108-BS1)

Prepared & Analyzed: 12/29/2023

TPH-Volatiles (GRO)	1.13 mg/kg	0.10	mg/kg	1.00	mg/kg	113	70-130			
Surr: 2,5-Dibromotoluene (Surr FID)	110		ug/L	100	ug/L	110	80-120			

Matrix Spike (BGL1108-MS1)

Source: 23L1387-01

Prepared & Analyzed: 12/29/2023

TPH-Volatiles (GRO)	1.01 mg/kg	0.10	mg/kg	0.977	<0.10 mg/kg	103	70-130			
Surr: 2,5-Dibromotoluene (Surr FID)	99.1		ug/L	100	ug/L	99.1	80-120			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Volatile Hydrocarbons by GC - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1108 - SW5030B-GC

Matrix Spike Dup (BGL1108-MSD1)		Source: 23L1387-01		Prepared & Analyzed: 12/29/2023						
TPH-Volatiles (GRO)	0.93 mg/kg	0.10	mg/kg	0.971	<0.10 mg/kg	95.3	70-130	8.34	20	
Surr: 2,5-Dibromotoluene (Surr FID)	99.4		ug/L	100	ug/L	99.4	80-120			

Batch BGL1118 - SW5030B-GC

Blank (BGL1118-BLK1)		Prepared & Analyzed: 01/02/2024								
TPH-Volatiles (GRO)	<0.10 mg/kg	0.10	mg/kg							
Surr: 2,5-Dibromotoluene (Surr FID)	112		ug/L	100		112	80-120			

LCS (BGL1118-BS1)		Prepared & Analyzed: 01/02/2024								
TPH-Volatiles (GRO)	1.10 mg/kg	0.10	mg/kg	1.00	mg/kg	110	70-130			
Surr: 2,5-Dibromotoluene (Surr FID)	113		ug/L	100	ug/L	113	80-120			

Matrix Spike (BGL1118-MS1)		Source: 23L1438-06RE1		Prepared & Analyzed: 01/02/2024						
TPH-Volatiles (GRO)	1.65 mg/kg	0.10	mg/kg	0.994	0.60 mg/kg	106	70-130			
Surr: 2,5-Dibromotoluene (Surr FID)	259		ug/L	100	ug/L	259	80-120			S

Matrix Spike Dup (BGL1118-MSD1)		Source: 23L1438-06RE1		Prepared & Analyzed: 01/02/2024						
TPH-Volatiles (GRO)	1.99 mg/kg	0.10	mg/kg	0.969	0.60 mg/kg	144	70-130	18.5	20	M
Surr: 2,5-Dibromotoluene (Surr FID)	225		ug/L	100	ug/L	225	80-120			S



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Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Blank (BGL1031-BLK1)

Prepared & Analyzed: 12/26/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Blank (BGL1031-BLK1)

Prepared & Analyzed: 12/26/2023

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethanol	<80.0 ug/L	80.0	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							



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 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Blank (BGL1031-BLK1)

Prepared & Analyzed: 12/26/2023

Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	54.2		ug/L	50.0		108	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.3		ug/L	50.0		92.6	75-120			
Surr: Dibromofluoromethane (Surr)	54.5		ug/L	50.0		109	70-130			
Surr: Toluene-d8 (Surr)	48.2		ug/L	50.0		96.3	70-130			

LCS (BGL1031-BS1)

Prepared & Analyzed: 12/26/2023

1,1,1,2-Tetrachloroethane	50.8 ug/L	0.4	ug/L	50.0	ug/L	102	80-130			
1,1,1-Trichloroethane	50.6 ug/L	1	ug/L	50.0	ug/L	101	65-130			
1,1,2,2-Tetrachloroethane	51.0 ug/L	0.4	ug/L	50.0	ug/L	102	65-130			
1,1,2-Trichloroethane	46.6 ug/L	1	ug/L	50.0	ug/L	93.2	75-125			
1,1-Dichloroethane	45.5 ug/L	1	ug/L	50.0	ug/L	91.0	70-135			
1,1-Dichloroethylene	47.1 ug/L	1	ug/L	50.0	ug/L	94.1	70-130			
1,1-Dichloropropene	53.4 ug/L	1	ug/L	50.0	ug/L	107	75-135			
1,2,3-Trichlorobenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	55-140			
1,2,3-Trichloropropane	50.8 ug/L	1	ug/L	50.0	ug/L	102	75-125			
1,2,4-Trichlorobenzene	54.4 ug/L	1	ug/L	50.0	ug/L	109	65-135			
1,2,4-Trimethylbenzene	62.3 ug/L	1	ug/L	50.0	ug/L	125	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	52.8 ug/L	1	ug/L	50.0	ug/L	106	50-130			
1,2-Dibromoethane (EDB)	52.6 ug/L	1	ug/L	50.0	ug/L	105	80-120			
1,2-Dichlorobenzene	53.3 ug/L	0.5	ug/L	50.0	ug/L	107	70-120			
1,2-Dichloroethane	41.2 ug/L	1	ug/L	50.0	ug/L	82.5	70-130			
1,2-Dichloropropane	50.5 ug/L	0.5	ug/L	50.0	ug/L	101	75-125			
1,3,5-Trimethylbenzene	58.8 ug/L	1	ug/L	50.0	ug/L	118	75-125			
1,3-Dichlorobenzene	54.5 ug/L	1	ug/L	50.0	ug/L	109	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

LCS (BGL1031-BS1)

Prepared & Analyzed: 12/26/2023

1,3-Dichloropropane	45.8 ug/L	1	ug/L	50.0	ug/L	91.6	75-125			
1,4-Dichlorobenzene	53.2 ug/L	1	ug/L	50.0	ug/L	106	75-125			
2,2-Dichloropropane	49.4 ug/L	1	ug/L	50.0	ug/L	98.7	70-135			
2-Butanone (MEK)	47.8 ug/L	10	ug/L	50.0	ug/L	95.6	30-150			
2-Chlorotoluene	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
2-Hexanone (MBK)	53.1 ug/L	5	ug/L	50.0	ug/L	106	55-130			
4-Chlorotoluene	56.1 ug/L	1	ug/L	50.0	ug/L	112	75-130			
4-Isopropyltoluene	62.3 ug/L	1	ug/L	50.0	ug/L	125	75-130			
4-Methyl-2-pentanone (MIBK)	47.6 ug/L	5	ug/L	50.0	ug/L	95.3	60-135			
Acetone	39.6 ug/L	10	ug/L	50.0	ug/L	79.2	40-140			
Benzene	49.8 ug/L	1	ug/L	50.0	ug/L	99.6	80-120			
Bromobenzene	52.8 ug/L	1	ug/L	50.0	ug/L	106	75-125			
Bromochloromethane	44.6 ug/L	1	ug/L	50.0	ug/L	89.2	65-130			
Bromodichloromethane	49.2 ug/L	0.5	ug/L	50.0	ug/L	98.3	75-120			
Bromoform	55.0 ug/L	1	ug/L	50.0	ug/L	110	70-130			
Bromomethane	43.2 ug/L	1	ug/L	50.0	ug/L	86.4	30-145			
Carbon disulfide	45.8 ug/L	10	ug/L	50.0	ug/L	91.7	35-160			
Carbon tetrachloride	53.2 ug/L	1	ug/L	50.0	ug/L	106	65-140			
Chlorobenzene	51.4 ug/L	1	ug/L	50.0	ug/L	103	80-120			
Chloroethane	47.3 ug/L	1	ug/L	50.0	ug/L	94.6	60-135			
Chloroform	41.9 ug/L	0.5	ug/L	50.0	ug/L	83.9	65-135			
Chloromethane	38.1 ug/L	1	ug/L	50.0	ug/L	76.2	40-125			
cis-1,2-Dichloroethylene	44.6 ug/L	1	ug/L	50.0	ug/L	89.2	70-125			
cis-1,3-Dichloropropene	52.0 ug/L	1	ug/L	50.0	ug/L	104	70-130			
Dibromochloromethane	48.8 ug/L	0.5	ug/L	50.0	ug/L	97.6	60-135			
Dibromomethane	51.7 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Dichlorodifluoromethane	50.1 ug/L	1	ug/L	50.0	ug/L	100	30-155			
Ethylbenzene	59.3 ug/L	1	ug/L	50.0	ug/L	119	75-125			
Hexachlorobutadiene	57.1 ug/L	0.8	ug/L	50.0	ug/L	114	50-140			
Isopropylbenzene	52.4 ug/L	1	ug/L	50.0	ug/L	105	75-125			
m+p-Xylenes	109 ug/L	2	ug/L	100	ug/L	109	75-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

LCS (BGL1031-BS1)

Prepared & Analyzed: 12/26/2023

Methylene chloride	39.2 ug/L	4	ug/L	50.0	ug/L	78.4	55-140			
Methyl-t-butyl ether (MTBE)	44.4 ug/L	1	ug/L	50.0	ug/L	88.8	65-125			
Naphthalene	62.2 ug/L	1	ug/L	50.0	ug/L	124	55-140			
n-Butylbenzene	61.0 ug/L	1	ug/L	50.0	ug/L	122	70-135			
n-Propylbenzene	59.7 ug/L	1	ug/L	50.0	ug/L	119	70-130			
o-Xylene	56.4 ug/L	1	ug/L	50.0	ug/L	113	80-120			
sec-Butylbenzene	63.2 ug/L	1	ug/L	50.0	ug/L	126	70-125			L
Styrene	55.8 ug/L	1	ug/L	50.0	ug/L	112	65-135			
tert-Butylbenzene	59.8 ug/L	1	ug/L	50.0	ug/L	120	70-130			
Tetrachloroethylene (PCE)	59.4 ug/L	1	ug/L	50.0	ug/L	119	45-150			
Toluene	50.1 ug/L	1	ug/L	50.0	ug/L	100	75-120			
trans-1,2-Dichloroethylene	44.6 ug/L	1	ug/L	50.0	ug/L	89.1	60-140			
trans-1,3-Dichloropropene	56.1 ug/L	1	ug/L	50.0	ug/L	112	55-140			
Trichloroethylene	50.0 ug/L	1	ug/L	50.0	ug/L	100	70-125			
Trichlorofluoromethane	52.7 ug/L	1	ug/L	50.0	ug/L	105	60-145			
Vinyl chloride	49.8 ug/L	0.5	ug/L	50.0	ug/L	99.7	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	47.8		ug/L	50.0	ug/L	95.6	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.6		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	50.2		ug/L	50.0	ug/L	100	70-130			
Surr: Toluene-d8 (Surr)	48.2		ug/L	50.0	ug/L	96.5	70-130			

Duplicate (BGL1031-DUP1)

Source: 23L1339-02

Prepared & Analyzed: 12/26/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L	<0.40	ug/L			NA	30	
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00	ug/L			NA	30	



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Duplicate (BGL1031-DUP1)

Source: 23L1339-02

Prepared & Analyzed: 12/26/2023

1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L	<5.00 ug/L				NA	30	
Acetone	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Benzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromochloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromodichloromethane	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Bromoform	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Bromomethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Carbon disulfide	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chlorobenzene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
Chloroform	<0.50 ug/L	0.50	ug/L	<0.50 ug/L				NA	30	
Chloromethane	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L	<1.00 ug/L				NA	30	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Duplicate (BGL1031-DUP1)

Source: 23L1339-02

Prepared & Analyzed: 12/26/2023

cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Dibromochloromethane	<0.50 ug/L	0.50	ug/L		<0.50 ug/L			NA	30	
Dibromomethane	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L		<5.00 ug/L			NA	30	
Ethylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L		<0.80 ug/L			NA	30	
Iodomethane	<10.0 ug/L	10.0	ug/L		<10.0 ug/L			NA	30	
Isopropylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
m+p-Xylenes	<2.00 ug/L	2.00	ug/L		<2.00 ug/L			NA	30	
Methylene chloride	<4.00 ug/L	4.00	ug/L		<4.00 ug/L			NA	30	
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Naphthalene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
n-Butylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
n-Propylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
o-Xylene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Styrene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Toluene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Trichloroethylene	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L		<1.00 ug/L			NA	30	
Vinyl acetate	<10.0 ug/L	10.0	ug/L		<10.0 ug/L			NA	30	
Vinyl chloride	<0.50 ug/L	0.50	ug/L		<0.50 ug/L			NA	30	
Xylenes, Total	<3.00 ug/L	3.00	ug/L		<3.00 ug/L			NA	30	
Tetrahydrofuran	<10.0 ug/L	10.0	ug/L		<10.0 ug/L			NA	30	
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	51.1		ug/L	50.0	ug/L	102	70-120			
Surr: 4-Bromofluorobenzene (Surr)	45.7		ug/L	50.0	ug/L	91.5	75-120			

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 03, 2024 17:05
	Lorton VA, 22079	Project Number:	4260155
Submitted To:	Shanna Hryvniak	Purchase Order:	4260155-001
Client Site I.D.:	Coopers Cove Petroleum Release		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Duplicate (BGL1031-DUP1)

Source: 23L1339-02

Prepared & Analyzed: 12/26/2023

Surr: Dibromofluoromethane (Surr)	56.4	ug/L	50.0	ug/L	113	70-130
Surr: Toluene-d8 (Surr)	50.0	ug/L	50.0	ug/L	100	70-130

Matrix Spike (BGL1031-MS1)

Source: 23L1339-01

Prepared & Analyzed: 12/26/2023

1,1,1,2-Tetrachloroethane	52.2 ug/L	0.4	ug/L	50.0	<0.4 ug/L	104	80-130
1,1,1-Trichloroethane	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	65-130
1,1,2,2-Tetrachloroethane	49.9 ug/L	0.4	ug/L	50.0	<0.4 ug/L	99.9	65-130
1,1,2-Trichloroethane	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.9	75-125
1,1-Dichloroethane	45.7 ug/L	1	ug/L	50.0	<1 ug/L	91.5	70-135
1,1-Dichloroethylene	47.8 ug/L	1	ug/L	50.0	<1 ug/L	95.7	50-145
1,1-Dichloropropene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-135
1,2,3-Trichlorobenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	55-140
1,2,3-Trichloropropane	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	75-125
1,2,4-Trichlorobenzene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	65-135
1,2,4-Trimethylbenzene	58.0 ug/L	1	ug/L	50.0	<1 ug/L	116	75-130
1,2-Dibromo-3-chloropropane (DBCP)	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	50-130
1,2-Dibromoethane (EDB)	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	80-120
1,2-Dichlorobenzene	50.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	70-120
1,2-Dichloroethane	40.1 ug/L	1	ug/L	50.0	<1 ug/L	80.1	70-130
1,2-Dichloropropane	49.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.5	75-125
1,3,5-Trimethylbenzene	56.0 ug/L	1	ug/L	50.0	<1 ug/L	112	75-124
1,3-Dichlorobenzene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125
1,3-Dichloropropane	44.2 ug/L	1	ug/L	50.0	<1 ug/L	88.4	75-125
1,4-Dichlorobenzene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125
2,2-Dichloropropane	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	70-135
2-Butanone (MEK)	40.7 ug/L	10	ug/L	50.0	<10 ug/L	81.4	30-150
2-Chlorotoluene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125
2-Hexanone (MBK)	47.3 ug/L	5	ug/L	50.0	<5 ug/L	94.6	55-130
4-Chlorotoluene	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-130
4-Isopropyltoluene	57.4 ug/L	1	ug/L	50.0	<1 ug/L	115	75-130
4-Methyl-2-pentanone (MIBK)	43.4 ug/L	5	ug/L	50.0	<5 ug/L	86.8	60-135
Acetone	37.6 ug/L	10	ug/L	50.0	<10 ug/L	75.2	40-140



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Certificate of Analysis

Final Report

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Matrix Spike (BGL1031-MS1)

Source: 23L1339-01

Prepared & Analyzed: 12/26/2023

Benzene	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120			
Bromobenzene	50.7 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
Bromochloromethane	44.1 ug/L	1	ug/L	50.0	<1 ug/L	88.2	65-130			
Bromodichloromethane	47.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.5	75-136			
Bromoform	54.1 ug/L	1	ug/L	50.0	<1 ug/L	108	70-130			
Bromomethane	40.5 ug/L	1	ug/L	50.0	<1 ug/L	81.0	30-145			
Carbon disulfide	41.4 ug/L	10	ug/L	50.0	<10 ug/L	82.7	35-160			
Carbon tetrachloride	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	65-140			
Chlorobenzene	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	80-120			
Chloroethane	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.8	60-135			
Chloroform	40.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	81.7	65-135			
Chloromethane	40.9 ug/L	1	ug/L	50.0	<1 ug/L	81.8	40-125			
cis-1,2-Dichloroethylene	44.9 ug/L	1	ug/L	50.0	<1 ug/L	89.8	70-125			
cis-1,3-Dichloropropene	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	47-136			
Dibromochloromethane	47.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	95.4	60-135			
Dibromomethane	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
Dichlorodifluoromethane	51.0 ug/L	1	ug/L	50.0	<1 ug/L	102	30-155			
Ethylbenzene	57.4 ug/L	1	ug/L	50.0	<1 ug/L	115	75-125			
Hexachlorobutadiene	57.9 ug/L	0.8	ug/L	50.0	<0.8 ug/L	116	50-140			
Isopropylbenzene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.6	75-125			
m+p-Xylenes	105 ug/L	2	ug/L	100	<2 ug/L	105	75-130			
Methylene chloride	38.6 ug/L	4	ug/L	50.0	<4 ug/L	75.7	55-140			
Methyl-t-butyl ether (MTBE)	42.7 ug/L	1	ug/L	50.0	<1 ug/L	85.4	65-125			
Naphthalene	55.0 ug/L	1	ug/L	50.0	<1 ug/L	110	55-140			
n-Butylbenzene	57.6 ug/L	1	ug/L	50.0	<1 ug/L	115	70-135			
n-Propylbenzene	55.7 ug/L	1	ug/L	50.0	<1 ug/L	111	70-130			
o-Xylene	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	80-120			
sec-Butylbenzene	58.1 ug/L	1	ug/L	50.0	<1 ug/L	116	70-125			
Styrene	54.3 ug/L	1	ug/L	50.0	<1 ug/L	109	65-135			
tert-Butylbenzene	56.2 ug/L	1	ug/L	50.0	<1 ug/L	112	70-130			
Tetrachloroethylene (PCE)	56.7 ug/L	1	ug/L	50.0	<1 ug/L	113	51-231			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1031 - SW5030B-MS

Matrix Spike (BGL1031-MS1)

Source: 23L1339-01

Prepared & Analyzed: 12/26/2023

Toluene	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	75-120			
trans-1,2-Dichloroethylene	44.9 ug/L	1	ug/L	50.0	<1 ug/L	89.8	60-140			
trans-1,3-Dichloropropene	55.7 ug/L	1	ug/L	50.0	<1 ug/L	111	55-140			
Trichloroethylene	50.9 ug/L	1	ug/L	50.0	<1 ug/L	102	70-125			
Trichlorofluoromethane	54.9 ug/L	1	ug/L	50.0	<1 ug/L	110	60-145			
Vinyl chloride	47.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.9	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	50.8		ug/L	50.0	ug/L	102	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.5		ug/L	50.0	ug/L	98.9	75-120			
Surr: Dibromofluoromethane (Surr)	47.9		ug/L	50.0	ug/L	95.8	70-130			
Surr: Toluene-d8 (Surr)	46.9		ug/L	50.0	ug/L	93.7	70-130			



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Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Final Report

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 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	63.1		ug/L	100		63.1	5-136			
Surr: 2-Fluorobiphenyl (Surr)	29.4		ug/L	50.0		58.9	9-117			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 03, 2024 17:05
 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

Surr: 2-Fluorophenol (Surr)	41.4		ug/L	100		41.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	30.5		ug/L	50.0		61.1	5-151			
Surr: Phenol-d5 (Surr)	23.0		ug/L	100		23.0	5-60			
Surr: p-Terphenyl-d14 (Surr)	29.4		ug/L	50.0		58.8	5-141			

Blank (BGL1004-BLK2)

Prepared: 12/26/2023 Analyzed: 12/28/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK2)

Prepared: 12/26/2023 Analyzed: 12/28/2023

4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzydine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK2)

Prepared: 12/26/2023 Analyzed: 12/28/2023

Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							
Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Date Issued: January 03, 2024 17:05
 Project Number: 4260155
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

Blank (BGL1004-BLK2)

Prepared: 12/26/2023 Analyzed: 12/28/2023

Pyrene	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	103		ug/L	100		103	5-136			
Surr: 2-Fluorobiphenyl (Surr)	29.6		ug/L	50.0		59.1	9-117			
Surr: 2-Fluorophenol (Surr)	38.5		ug/L	100		38.5	5-60			
Surr: Nitrobenzene-d5 (Surr)	29.9		ug/L	50.0		59.8	5-151			
Surr: Phenol-d5 (Surr)	24.2		ug/L	100		24.2	5-60			
Surr: p-Terphenyl-d14 (Surr)	28.0		ug/L	50.0		56.0	5-141			

LCS (BGL1004-BS1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

1,2,4-Trichlorobenzene	25.7 ug/L	10.0	ug/L	50.0	ug/L	51.4	57-130			L
1,2-Dichlorobenzene	28.9 ug/L	10.0	ug/L	50.0	ug/L	57.9	22-115			
1,3-Dichlorobenzene	26.9 ug/L	10.0	ug/L	50.0	ug/L	53.8	22-112			
1,4-Dichlorobenzene	27.9 ug/L	10.0	ug/L	50.0	ug/L	55.8	13-112			
2,4,6-Trichlorophenol	32.9 ug/L	10.0	ug/L	50.0	ug/L	65.7	52-129			
2,4-Dichlorophenol	29.7 ug/L	10.0	ug/L	50.0	ug/L	59.5	53-122			
2,4-Dimethylphenol	30.6 ug/L	5.00	ug/L	50.0	ug/L	61.1	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	67.0	48-127			
2,4-Dinitrotoluene	32.0 ug/L	10.0	ug/L	50.0	ug/L	63.9	10-173			
2,6-Dinitrotoluene	21.3 ug/L	10.0	ug/L	50.0	ug/L	42.6	68-137			L
2-Chloronaphthalene	28.8 ug/L	10.0	ug/L	50.0	ug/L	57.6	65-120			L
2-Chlorophenol	27.7 ug/L	10.0	ug/L	50.0	ug/L	55.4	36-120			
2-Nitrophenol	30.5 ug/L	10.0	ug/L	50.0	ug/L	61.0	45-167			
3,3'-Dichlorobenzidine	24.5 ug/L	10.0	ug/L	50.0	ug/L	49.0	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	48.6	53-130			L
4-Bromophenyl phenyl ether	39.0 ug/L	10.0	ug/L	50.0	ug/L	78.0	65-120			
4-Chlorophenyl phenyl ether	20.1 ug/L	10.0	ug/L	50.0	ug/L	40.3	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	18.5	13-129			
Acenaphthene	31.4 ug/L	10.0	ug/L	50.0	ug/L	62.7	60-132			
Acenaphthylene	25.1 ug/L	10.0	ug/L	50.0	ug/L	50.2	54-126			L
Acetophenone	29.2 ug/L	20.0	ug/L	50.0	ug/L	58.4	0-200			
Anthracene	32.8 ug/L	10.0	ug/L	50.0	ug/L	65.7	43-120			
Benzo (a) anthracene	35.6 ug/L	10.0	ug/L	50.0	ug/L	71.2	42-133			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 03, 2024 17:05
 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

LCS (BGL1004-BS1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

Benzo (a) pyrene	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.4	32-148			
Benzo (b) fluoranthene	41.6 ug/L	10.0	ug/L	50.0	ug/L	83.1	42-140			
Benzo (g,h,i) perylene	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.5	10-195			
Benzo (k) fluoranthene	36.0 ug/L	10.0	ug/L	50.0	ug/L	71.9	25-146			
bis (2-Chloroethoxy) methane	28.5 ug/L	10.0	ug/L	50.0	ug/L	57.1	49-165			
bis (2-Chloroethyl) ether	24.9 ug/L	10.0	ug/L	50.0	ug/L	49.8	43-126			
2,2'-Oxybis (1-chloropropane)	28.2 ug/L	10.0	ug/L	50.0	ug/L	56.3	63-139			L
bis (2-Ethylhexyl) phthalate	29.5 ug/L	10.0	ug/L	50.0	ug/L	59.0	29-137			
Butyl benzyl phthalate	33.0 ug/L	10.0	ug/L	50.0	ug/L	66.0	10-140			
Chrysene	35.4 ug/L	10.0	ug/L	50.0	ug/L	70.9	44-140			
Dibenz (a,h) anthracene	32.3 ug/L	10.0	ug/L	50.0	ug/L	64.6	10-200			
Diethyl phthalate	23.9 ug/L	10.0	ug/L	50.0	ug/L	47.8	10-120			
Dimethyl phthalate	21.1 ug/L	10.0	ug/L	50.0	ug/L	42.2	10-120			
Di-n-butyl phthalate	36.5 ug/L	10.0	ug/L	50.0	ug/L	72.9	10-120			
Di-n-octyl phthalate	56.0 ug/L	10.0	ug/L	50.0	ug/L	112	19-132			
Fluoranthene	38.9 ug/L	10.0	ug/L	50.0	ug/L	77.9	43-121			
Fluorene	24.3 ug/L	10.0	ug/L	50.0	ug/L	48.5	70-120			L
Hexachlorobenzene	32.4 ug/L	1.00	ug/L	50.0	ug/L	64.8	10-142			
Hexachlorobutadiene	28.0 ug/L	10.0	ug/L	50.0	ug/L	56.0	38-120			
Hexachlorocyclopentadiene	15.1 ug/L	10.0	ug/L	50.0	ug/L	30.1	10-76			
Hexachloroethane	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.4	55-120			
Indeno (1,2,3-cd) pyrene	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.5	10-151			
Isophorone	20.1 ug/L	10.0	ug/L	50.0	ug/L	40.3	47-180			L
Naphthalene	31.7 ug/L	5.00	ug/L	50.0	ug/L	63.5	36-120			
Nitrobenzene	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.0	54-158			
n-Nitrosodimethylamine	21.5 ug/L	10.0	ug/L	50.0	ug/L	43.0	10-85			
n-Nitrosodi-n-propylamine	28.4 ug/L	10.0	ug/L	50.0	ug/L	56.8	14-198			
n-Nitrosodiphenylamine	18.9 ug/L	10.0	ug/L	50.0	ug/L	37.7	12-97			
p-Chloro-m-cresol	29.8 ug/L	10.0	ug/L	50.0	ug/L	59.7	10-142			
Pentachlorophenol	28.2 ug/L	20.0	ug/L	50.0	ug/L	56.4	38-152			
Phenanthrene	43.1 ug/L	10.0	ug/L	50.0	ug/L	86.3	65-120			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1004 - SW3510C/EPA600-MS

LCS (BGL1004-BS1)

Prepared: 12/26/2023 Analyzed: 12/27/2023

Phenol	11.0 ug/L	10.0	ug/L	50.5	ug/L	21.9	17-120			
Pyrene	23.4 ug/L	10.0	ug/L	50.0	ug/L	46.8	70-120			L
Pyridine	25.5 ug/L	10.0	ug/L	50.0	ug/L	50.9	10-103			

Surr: 2,4,6-Tribromophenol (Surr)	67.6		ug/L	100	ug/L	67.6	5-136			
Surr: 2-Fluorobiphenyl (Surr)	28.6		ug/L	50.0	ug/L	57.2	9-117			
Surr: 2-Fluorophenol (Surr)	41.4		ug/L	100	ug/L	41.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	33.5		ug/L	50.0	ug/L	67.0	5-151			
Surr: Phenol-d5 (Surr)	23.9		ug/L	100	ug/L	23.9	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.4		ug/L	50.0	ug/L	60.9	5-141			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Semivolatile Hydrocarbons by GC - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1107 - SW3550C/EPA600-FID

Blank (BGL1107-BLK1)

Prepared: 12/27/2023 Analyzed: 12/28/2023

TPH-Semi-Volatiles (DRO)	<10.0 mg/kg	10.0	mg/kg						
Surr: <i>n</i> -Triacontane (Surr)	4.41		mg/kg	5.00		88.3	50-125		

LCS (BGL1107-BS1)

Prepared: 12/27/2023 Analyzed: 12/28/2023

TPH-Semi-Volatiles (DRO)	71.0 mg/kg	10.0	mg/kg	98.6	mg/kg	72.0	70-130		
Surr: <i>n</i> -Triacontane (Surr)	4.29		mg/kg	4.93	mg/kg	87.0	50-125		

Matrix Spike (BGL1107-MS1)

Source: 23L1387-01

Prepared: 12/27/2023 Analyzed: 12/29/2023

TPH-Semi-Volatiles (DRO)	58.0 mg/kg	10.0	mg/kg	99.8	<10.0 mg/kg	58.1	70-130		M
Surr: <i>n</i> -Triacontane (Surr)	3.57		mg/kg	4.99	mg/kg	71.6	50-125		

Matrix Spike Dup (BGL1107-MSD1)

Source: 23L1387-01

Prepared: 12/27/2023 Analyzed: 12/29/2023

TPH-Semi-Volatiles (DRO)	55.8 mg/kg	10.0	mg/kg	99.6	<10.0 mg/kg	56.0	70-130	3.84	20	M
Surr: <i>n</i> -Triacontane (Surr)	3.36		mg/kg	4.98	mg/kg	67.4	50-125			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8015C in Solids	
TPH-Semi-Volatiles (DRO)	VELAP,PADEP,NCDEQ,WVDEP
TPH-Volatiles (GRO)	VELAP,PADEP,NCDEQ,WVDEP
SW8021B in Solids	
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,WVDEP,PADEP
Benzene	VELAP,WVDEP,PADEP
Toluene	VELAP,WVDEP,PADEP
Ethylbenzene	VELAP,WVDEP,PADEP
m+p-Xylenes	VELAP,WVDEP,PADEP
o-Xylene	VELAP,WVDEP,PADEP
Xylenes, Total	VELAP,WVDEP,PADEP
Naphthalene	VELAP,WVDEP,PADEP
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP

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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2024
NCDEQ	North Carolina DEQ	495	12/31/2024
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Summary of Data Qualifiers

DS Surrogate concentration reflects a dilution factor.

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

BI @ 12' 930
 350 330 915
 1287 200
 76 1430
 No label 20'

1941 REYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804)358-8297 FAX

Chain of Custody
 Effective: Mar 10, 2021

CHAIN OF CUSTODY

PAGE 1 OF 2

COMPANY NAME: <u>Total Env. Concepts</u>	INVOICE TO: <u>AP @ teeipro</u>	PROJECT NAME/Quote #: <u>Hatstead (Now Coopers Cove)</u>
CONTACT: <u>Shanna Hryniak</u>	INVOICE CONTACT: <u>Tyane Best</u>	SITE NAME: <u>Parker Towle Petroleum Release</u>
ADDRESS:	INVOICE ADDRESS:	PROJECT NUMBER: <u>4260155</u>
PHONE #: <u>(804) 389-7983</u>	INVOICE PHONE #:	P.O. #: <u>4260155-001</u>
FAX #:	EMAIL: <u>Shryniak@teeipro</u>	Pretreatment Program:

Is sample for compliance reporting? YES Regulatory State: _____ Is sample from a chlorinated supply? YES PWS I.D. #: _____

SAMPLER NAME (PRINT): Shanna Hryniak SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS	
											8015 TPH-D6D	8015 TPH-6RD	8021 BTEXMN					
1) B-1 @ 8'	X					12/22/23	930	1400	SO	1	X							Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol DEP State lead rates PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
2) B-2 @ 32'	X						1030	1400	SO	1	X	X	X					
3) B-3 @ 25'	X						1100		SO	1	X	X	X					
4) B-4 @ 18'	X						1140		SO	2								
5) B-5 @ 25'	X						1200		SO	2								
6) B-6 @ 20'	X						1230		SO	2								
7) B-7 @ 10'	X						1315		SO	2								
8) B-7 @ 31-33'	X						1330		SO	2								
9) B-8 @ 10'	X						1325		SO	2								
10) B-8 @ 34-36'	X						1350		SO	2								

RELINQUISHED: <u>[Signature]</u> DATE / TIME: <u>12/25/23 12:00</u>	RECEIVED: <u>[Signature]</u> DATE / TIME: <u>12/26/23 12:00</u>	QC Data Package	LAB USE ONLY Therm ID: _____ COOLER TEMP _____ °C
RELINQUISHED: <u>[Signature]</u> DATE / TIME: <u>12/26/23 11:00</u>	RECEIVED: <u>[Signature]</u> DATE / TIME: <u>12/26/23 11:00</u>	Level III <input type="checkbox"/>	Custody Seals used and intact? (Y/N) _____
RELINQUISHED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level IV <input type="checkbox"/>	Received on ice? (Y/N) _____

TEC-Springfield 23L1349
State Lead - Coopers Cove Petroleum
Recd: 12/26/2023 Due: 01/03/2024

CHAIN OF CUSTODY

COMPANY NAME: <i>Total Env. Concepts</i>		INVOICE TO: <i>AP@tecpo</i>		PROJECT NAME/Quote #: <i>Coopers Cove Petroler Release</i>	
CONTACT: <i>Shanna Hyman</i>		INVOICE CONTACT:		SITE NAME: <i>Parker Tower</i>	
ADDRESS:		INVOICE ADDRESS:		PROJECT NUMBER:	
PHONE #: <i>(804)389-7983</i>		INVOICE PHONE #:		P.O. #: <i>4260155-001</i>	
FAX #:		EMAIL: <i>Shanna@tecpo</i>		Pretreatment Program:	
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State:		Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
PWS I.D. #:		SAMPLER NAME (PRINT): <i>Shanna Hyman</i>		SAMPLER SIGNATURE: <i>[Signature]</i>	
				Turn Around Time: Circle 10 <input checked="" type="checkbox"/> 5 Days or Day(s)	

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)			COMMENTS
											TPH-DRO 8015	VOCs 8260	SVOCs 8270	
1) B-1 @ 12'	X					12/22/23	935	HO	SO	1	X			D&W State Lead Rates PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
2) 350 Ridgecrest	X					12/22/23	330		GW	4	X	X		
3) 1987 Coopers Cove	X					12/22/23	915		GW	4	X	X	3.2°C	
4) 76 Patsel Court	X					12/22/23	900		GW	4	X	X	338	
5) Trip blank														
6) Holland HO @ 90"	X					12/22/23	1430	↓	SO	1	X			
7)														
8)														
9)														
10)														

RELINQUISHED: <i>[Signature]</i>	DATE / TIME: <i>12/25/23 12:00</i>	RECEIVED: <i>[Signature]</i>	DATE / TIME: <i>12/25/23 12:00</i>	QC Data Package	LAB USE ONLY Therm ID: _____	COOLER TEMP _____ °C
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: <i>12/26/23 11:00</i>	RECEIVED: <i>[Signature]</i>	DATE / TIME: <i>12/26/23 11:00</i>	Level III <input type="checkbox"/>	Custody Seals used and intact? (Y / N)	Received on ice? (Y / N)
RELINQUISHED: _____	DATE / TIME: _____	RECEIVED: _____	DATE / TIME: _____	Level IV <input type="checkbox"/>	TEC-Springfield 23L1349 State Lead - Coopers Cove Petroleum Recd: 12/26/2023 Due: 01/03/2024	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 03, 2024 17:05
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Petroleum Release	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	3.20°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

Sample 05 'B-5 @ 25" we only received one 4oz container. Email sent to Shanna Hryvniak. 12/26/23 1353 DLJ

Project changed, per Shanna Hryvniak via email. 12/26/23 1527 DLJ



Appendix O

DEQ Release Letter(s)



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLUE RIDGE REGIONAL OFFICE

901 Russell Drive, Salem, Virginia 24153

(540) 562-6700

www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4000

Robert J. Weld
Regional Director

January 29, 2024

Mr. Ray Holland
1640 Cooper Cove Road,
Hardy, VA 24101

re: Confirmed petroleum release at: the Ray Holland Property, 1640 Cooper Cove Road,
Hardy, VA, LUST PC No. 2024-2089

Dear Mr. Holland:

The Department of Environmental Quality (the "Department" or "DEQ") has been notified of a confirmed petroleum release at the above referenced facility. State Water Control Law authorizes the State Water Control Board (the "Board"), acting through DEQ, to require any owner or operator who is the responsible person for a petroleum release from an underground storage tank to undertake corrective action for any such release.¹ Based on the evidence available to us, it appears that you are the Responsible Person (RP) for this petroleum release.

DEQ continues to investigate the source of the petroleum and the severity and extent of impacts to the surrounding neighborhood through its State Lead program. The next step is to address the contaminated soils surrounding the regulated underground storage tanks on your property. Ordinarily, once a responsible person is identified through a State Lead investigation, they are expected to take over cleanup activities. However, due to the scope and complexity of the impact, DEQ will continue to utilize a State Lead contractor for additional investigation and corrective action.

Please note, that responsible persons are obligated to meet a certain portion of the cleanup costs. To date, DEQ has spent over \$58,000 on this investigation. The financial responsibility obligation for this petroleum release is \$5,000. By separate letter, DEQ will seek to recover those costs from you and provide instructions for payment.

This letter is intended to provide information to assist you in evaluating your corrective action obligations and is not a case decision under the Administrative Process Act. If you dispute that you are the responsible person for this petroleum release, you may elect to participate in DEQ's Process for Early Dispute Resolution. For information on the Process for Early Dispute

Resolution, please visit the “Laws & Regulations”, then the “DEQ Regulations” portion of our website for: http://www.deq.virginia.gov/regulations/pdf/Process_for_Early_Dispute_Resolution_8260532.pdf. In the alternative, you may request an informal fact finding proceeding under Va. Code §2.2-4019 to receive a final agency case decision on your responsible person status.

I have been assigned as the case manager for this pollution complaint (PC). If you have any questions or would like to discuss the information contained in this letter, please contact me at **(540) 598-1502** or at **david.kirby@deq.virginia.gov**.

Sincerely,

A handwritten signature in black ink, appearing to read "David Kirby". The signature is written in a cursive style with a large initial "D" and "K".

David Kirby, P.G.
Petroleum Remediation Geologist Senior II
Case Manager

cc: File: PC 2024-2089
Shanna Hryvniak, Total Environmental Concepts, Inc



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLUE RIDGE REGIONAL OFFICE

901 Russell Drive, Salem, Virginia 24153

(540) 562-6700

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Travis A. Voyles
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January 29, 2024

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1640 Cooper Cove Road,
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Resolution, please visit the “Laws & Regulations”, then the “DEQ Regulations” portion of our website for: http://www.deq.virginia.gov/regulations/pdf/Process_for_Early_Dispute_Resolution_8260532.pdf. In the alternative, you may request an informal fact finding proceeding under Va. Code §2.2-4019 to receive a final agency case decision on your responsible person status.

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Sincerely,

A handwritten signature in black ink, appearing to read "David Kirby". The signature is written in a cursive style with a large initial "D" and "K".

David Kirby, P.G.
Petroleum Remediation Geologist Senior II
Case Manager

cc: File: PC 2024-2089
Shanna Hryvniak, Total Environmental Concepts, Inc



Appendix P

Laboratory Analytical Report (12/26/2023)



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Certificate of Analysis

Final Report

Laboratory Order ID 23L1422

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Date Received: December 27, 2023 12:27

Date Issued: January 2, 2024 17:15

Project Number: 4260155

Purchase Order: 4260155-001

Client Site I.D.: Coopers Cove Res. Release Inv.

Enclosed are the results of analyses for samples received by the laboratory on 12/27/2023 12:27. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 02, 2024 17:15
8382 Terminal Rd, Bay B Project Number: 4260155
Lorton VA, 22079 Purchase Order: 4260155-001
Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers Cove Res. Release Inv.

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L1422

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
M. Richardson 130 Ridgecrest Road	23L1422-01	Ground Water	12/26/2023 13:15	12/27/2023 12:27
Trip blank	23L1422-02	Ground Water	12/08/2023 12:10	12/27/2023 12:27



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson

Laboratory Sample ID: 23L1422-01

Grab Date/Time: 12/26/2023 13:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:32	12/27/23 16:32	TLH
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:32	12/27/23 16:32	TLH
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/27/23 16:32	12/27/23 16:32	TLH
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson	Laboratory Sample ID: 23L1422-01
Grab Date/Time: 12/26/2023 13:15	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L	5.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Acetone	01	SW8260D	<10.0 ug/L	10.0	1	12/27/23 16:32	12/27/23 16:32	TLH	
Benzene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Bromobenzene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Bromochloromethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Bromodichloromethane	01	SW8260D	<0.50 ug/L	0.50	1	12/27/23 16:32	12/27/23 16:32	TLH	
Bromoform	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Bromomethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Carbon disulfide	01	SW8260D	<10.0 ug/L	10.0	1	12/27/23 16:32	12/27/23 16:32	TLH	
Carbon tetrachloride	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Chlorobenzene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Chloroethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Chloroform	01	SW8260D	<0.50 ug/L	0.50	1	12/27/23 16:32	12/27/23 16:32	TLH	
Chloromethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Dibromochloromethane	01	SW8260D	<0.50 ug/L	0.50	1	12/27/23 16:32	12/27/23 16:32	TLH	
Dibromomethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L	5.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Ethylbenzene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L	0.80	1	12/27/23 16:32	12/27/23 16:32	TLH	
Iodomethane	01	SW8260D	<10.0 ug/L	10.0	1	12/27/23 16:32	12/27/23 16:32	TLH	
Isopropylbenzene	01	SW8260D	<1.00 ug/L	1.00	1	12/27/23 16:32	12/27/23 16:32	TLH	
m+p-Xylenes	01	SW8260D	<2.00 ug/L	2.00	1	12/27/23 16:32	12/27/23 16:32	TLH	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 02, 2024 17:15
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Res. Release Inv.		

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson Laboratory Sample ID: 23L1422-01

Grab Date/Time: 12/26/2023 13:15

Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Methyl-t-butyl ether (MTBE)	01	SW8260D	5.54 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:32	12/27/23 16:32	TLH
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:32	12/27/23 16:32	TLH
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/27/23 16:32	12/27/23 16:32	TLH
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	90.2 %		70-120		12/27/23 16:32	12/27/23 16:32	TLH
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	93.7 %		75-120		12/27/23 16:32	12/27/23 16:32	TLH
Surr: Dibromofluoromethane (Surr)	01	SW8260D	93.6 %		70-130		12/27/23 16:32	12/27/23 16:32	TLH
Surr: Toluene-d8 (Surr)	01	SW8260D	95.2 %		70-130		12/27/23 16:32	12/27/23 16:32	TLH

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson

Laboratory Sample ID: 23L1422-01

Grab Date/Time: 12/26/2023 13:15

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/28/23 08:50	12/29/23 19:16	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson

Laboratory Sample ID: 23L1422-01

Grab Date/Time: 12/26/2023 13:15

Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson Laboratory Sample ID: 23L1422-01

Grab Date/Time: 12/26/2023 13:15

Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:16	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/28/23 08:50	12/29/23 19:16	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:16	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. M. Richardson	Laboratory Sample ID: 23L1422-01
Grab Date/Time: 12/26/2023 13:15	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/28/23 08:50	12/29/23 19:16	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:16	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	181 %	S	5-136		12/28/23 08:50	12/29/23 19:16	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	126 %	S	9-117		12/28/23 08:50	12/29/23 19:16	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	75.1 %	S	5-60		12/28/23 08:50	12/29/23 19:16	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	144 %		5-151		12/28/23 08:50	12/29/23 19:16	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	48.4 %		5-60		12/28/23 08:50	12/29/23 19:16	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	96.9 %		5-141		12/28/23 08:50	12/29/23 19:16	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. Trip blank Laboratory Sample ID: 23L1422-02
 Grab Date/Time: 12/08/2023 12:10
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	12/27/23 15:22	12/27/23 15:22	TLH
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/27/23 15:22	12/27/23 15:22	TLH
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 02, 2024 17:15
		Project Number:	4260155
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Res. Release Inv.		

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. Trip blank	Laboratory Sample ID: 23L1422-02
Grab Date/Time: 12/08/2023 12:10	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	12/27/23 15:22	12/27/23 15:22	TLH
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	12/27/23 15:22	12/27/23 15:22	TLH
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Chloroform	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	12/27/23 15:22	12/27/23 15:22	TLH
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	12/27/23 15:22	12/27/23 15:22	TLH
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	12/27/23 15:22	12/27/23 15:22	TLH



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1422

Analytical Results

Sample I.D. Trip blank Laboratory Sample ID: 23L1422-02
 Grab Date/Time: 12/08/2023 12:10
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	12/27/23 15:22	12/27/23 15:22	TLH
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	12/27/23 15:22	12/27/23 15:22	TLH
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	12/27/23 15:22	12/27/23 15:22	TLH
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	91.6 %		70-120		12/27/23 15:22	12/27/23 15:22	TLH
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	95.6 %		75-120		12/27/23 15:22	12/27/23 15:22	TLH
Surr: Dibromofluoromethane (Surr)	02	SW8260D	91.9 %		70-130		12/27/23 15:22	12/27/23 15:22	TLH
Surr: Toluene-d8 (Surr)	02	SW8260D	94.6 %		70-130		12/27/23 15:22	12/27/23 15:22	TLH



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Semivolatle Organic Compounds by GCMS		Preparation Method:		SW3510C/EPA600-MS	
23L1422-01	1070 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Volatile Organic Compounds by GCMS		Preparation Method:		SW5030B-MS	
23L1422-01	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
23L1422-02	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL1115-BLK1	1000 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271
BGL1115-BS1	1000 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL1079-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-BS1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-MS1	0.0200 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,4-Dioxane	<80.0 ug/L	80.0	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chloroethyl vinyl ether	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Acetonitrile	<10.0 ug/L	10.0	ug/L							



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Acrolein	<10.0 ug/L	10.0	ug/L							
Acrylonitrile	<5.00 ug/L	5.00	ug/L							
Allyl chloride	<1.00 ug/L	1.00	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							
Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
Chloroprene	<5.00 ug/L	5.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Cyclohexane	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethanol	<80.0 ug/L	80.0	ug/L							
Ethyl methacrylate	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Ethyl-t-butyl ether (ETBE)	<25.0 ug/L	25.0	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Methacrylonitrile	<1.50 ug/L	1.50	ug/L							
Methyl acetate	<4.00 ug/L	4.00	ug/L							
Methyl cyclohexane	<1.00 ug/L	1.00	ug/L							
Methyl methacrylate	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
Pentachloroethane	<10.0 ug/L	10.0	ug/L							
Propionitrile	<40.0 ug/L	40.0	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
TAAE	<5.00 ug/L	5.00	ug/L							
TAME	<5.00 ug/L	5.00	ug/L							
TBA	<100 ug/L	100	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
trans-1,4-Dichloro-2-butene	<4.00 ug/L	4.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
Diethyl ether	<5.00 ug/L	5.00	ug/L							
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	45.8		ug/L	50.0		91.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.5		ug/L	50.0		93.0	75-120			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Surr: Dibromofluoromethane (Surr)	46.8		ug/L	50.0		93.6	70-130			
Surr: Toluene-d8 (Surr)	48.4		ug/L	50.0		96.9	70-130			

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	49.4 ug/L	0.4	ug/L	50.0	ug/L	98.9	80-130			
1,1,1-Trichloroethane	50.8 ug/L	1	ug/L	50.0	ug/L	102	65-130			
1,1,2,2-Tetrachloroethane	46.7 ug/L	0.4	ug/L	50.0	ug/L	93.3	65-130			
1,1,2-Trichloroethane	50.2 ug/L	1	ug/L	50.0	ug/L	100	75-125			
1,1-Dichloroethane	48.8 ug/L	1	ug/L	50.0	ug/L	97.5	70-135			
1,1-Dichloroethylene	51.1 ug/L	1	ug/L	50.0	ug/L	102	70-130			
1,1-Dichloropropene	53.6 ug/L	1	ug/L	50.0	ug/L	107	75-135			
1,2,3-Trichlorobenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.2	55-140			
1,2,3-Trichloropropane	43.9 ug/L	1	ug/L	50.0	ug/L	87.8	75-125			
1,2,4-Trichlorobenzene	50.6 ug/L	1	ug/L	50.0	ug/L	101	65-135			
1,2,4-Trimethylbenzene	50.5 ug/L	1	ug/L	50.0	ug/L	101	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	40.4 ug/L	1	ug/L	50.0	ug/L	80.8	50-130			
1,2-Dibromoethane (EDB)	48.2 ug/L	1	ug/L	50.0	ug/L	96.3	80-120			
1,2-Dichlorobenzene	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	70-120			
1,2-Dichloroethane	43.2 ug/L	1	ug/L	50.0	ug/L	86.3	70-130			
1,2-Dichloropropane	47.8 ug/L	0.5	ug/L	50.0	ug/L	95.6	75-125			
1,3,5-Trimethylbenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.3	75-125			
1,3-Dichlorobenzene	52.0 ug/L	1	ug/L	50.0	ug/L	104	75-125			
1,3-Dichloropropane	45.7 ug/L	1	ug/L	50.0	ug/L	91.4	75-125			
1,4-Dichlorobenzene	49.6 ug/L	1	ug/L	50.0	ug/L	99.1	75-125			
2,2-Dichloropropane	51.2 ug/L	1	ug/L	50.0	ug/L	102	70-135			
2-Butanone (MEK)	39.9 ug/L	10	ug/L	50.0	ug/L	79.8	30-150			
2-Chlorotoluene	52.2 ug/L	1	ug/L	50.0	ug/L	104	75-125			
2-Hexanone (MBK)	41.3 ug/L	5	ug/L	50.0	ug/L	82.5	55-130			
4-Chlorotoluene	51.1 ug/L	1	ug/L	50.0	ug/L	102	75-130			
4-Isopropyltoluene	52.5 ug/L	1	ug/L	50.0	ug/L	105	75-130			
4-Methyl-2-pentanone (MIBK)	41.6 ug/L	5	ug/L	50.0	ug/L	83.2	60-135			
Acetone	39.7 ug/L	10	ug/L	50.0	ug/L	79.5	40-140			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

Benzene	47.6 ug/L	1	ug/L	50.0	ug/L	95.3	80-120			
Bromobenzene	52.4 ug/L	1	ug/L	50.0	ug/L	105	75-125			
Bromochloromethane	48.4 ug/L	1	ug/L	50.0	ug/L	96.8	65-130			
Bromodichloromethane	48.2 ug/L	0.5	ug/L	50.0	ug/L	96.3	75-120			
Bromoform	48.3 ug/L	1	ug/L	50.0	ug/L	96.5	70-130			
Bromomethane	37.3 ug/L	1	ug/L	50.0	ug/L	74.7	30-145			
Carbon disulfide	51.2 ug/L	10	ug/L	50.0	ug/L	102	35-160			
Carbon tetrachloride	56.3 ug/L	1	ug/L	50.0	ug/L	113	65-140			
Chlorobenzene	51.4 ug/L	1	ug/L	50.0	ug/L	103	80-120			
Chloroethane	47.0 ug/L	1	ug/L	50.0	ug/L	94.0	60-135			
Chloroform	47.2 ug/L	0.5	ug/L	50.0	ug/L	94.4	65-135			
Chloromethane	40.4 ug/L	1	ug/L	50.0	ug/L	80.7	40-125			
cis-1,2-Dichloroethylene	50.4 ug/L	1	ug/L	50.0	ug/L	101	70-125			
cis-1,3-Dichloropropene	48.1 ug/L	1	ug/L	50.0	ug/L	96.3	70-130			
Dibromochloromethane	49.8 ug/L	0.5	ug/L	50.0	ug/L	99.6	60-135			
Dibromomethane	46.9 ug/L	1	ug/L	50.0	ug/L	93.7	75-125			
Dichlorodifluoromethane	46.6 ug/L	1	ug/L	50.0	ug/L	93.2	30-155			
Ethylbenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Hexachlorobutadiene	56.6 ug/L	0.8	ug/L	50.0	ug/L	113	50-140			
Isopropylbenzene	50.3 ug/L	1	ug/L	50.0	ug/L	101	75-125			
m+p-Xylenes	107 ug/L	2	ug/L	100	ug/L	107	75-130			
Methylene chloride	51.8 ug/L	4	ug/L	50.0	ug/L	104	55-140			
Methyl-t-butyl ether (MTBE)	43.2 ug/L	1	ug/L	50.0	ug/L	86.3	65-125			
Naphthalene	46.2 ug/L	1	ug/L	50.0	ug/L	92.5	55-140			
n-Butylbenzene	52.5 ug/L	1	ug/L	50.0	ug/L	105	70-135			
n-Propylbenzene	54.4 ug/L	1	ug/L	50.0	ug/L	109	70-130			
o-Xylene	52.1 ug/L	1	ug/L	50.0	ug/L	104	80-120			
sec-Butylbenzene	56.7 ug/L	1	ug/L	50.0	ug/L	113	70-125			
Styrene	48.9 ug/L	1	ug/L	50.0	ug/L	97.8	65-135			
tert-Butylbenzene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-130			
Tetrachloroethylene (PCE)	59.9 ug/L	1	ug/L	50.0	ug/L	120	45-150			



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

Toluene	52.7 ug/L	1	ug/L	50.0	ug/L	105	75-120			
trans-1,2-Dichloroethylene	50.6 ug/L	1	ug/L	50.0	ug/L	101	60-140			
trans-1,3-Dichloropropene	49.6 ug/L	1	ug/L	50.0	ug/L	99.2	55-140			
Trichloroethylene	52.5 ug/L	1	ug/L	50.0	ug/L	105	70-125			
Trichlorofluoromethane	57.9 ug/L	1	ug/L	50.0	ug/L	116	60-145			
Vinyl chloride	48.8 ug/L	0.5	ug/L	50.0	ug/L	97.5	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	46.2		ug/L	50.0	ug/L	92.3	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.5		ug/L	50.0	ug/L	95.1	75-120			
Surr: Dibromofluoromethane (Surr)	48.2		ug/L	50.0	ug/L	96.4	70-130			
Surr: Toluene-d8 (Surr)	46.4		ug/L	50.0	ug/L	92.9	70-130			

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	<100 ug/L	100	ug/L	<100	ug/L			NA	30	
1,1,1-Trichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1,2,2-Tetrachloroethane	<100 ug/L	100	ug/L	<100	ug/L			NA	30	
1,1,2-Trichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloroethylene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloropropene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,3-Trichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,3-Trichloropropane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,4-Trichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,4-Trimethylbenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dibromoethane (EDB)	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dichlorobenzene	<125 ug/L	125	ug/L	<125	ug/L			NA	30	
1,2-Dichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dichloropropane	<125 ug/L	125	ug/L	<125	ug/L			NA	30	
1,3,5-Trimethylbenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,3-Dichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,3-Dichloropropane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,4-Dichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

1,4-Dioxane	<20000 ug/L	20000	ug/L		<20000 ug/L			NA	30	
2,2-Dichloropropane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
2-Butanone (MEK)	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
2-Chloroethyl vinyl ether	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
2-Chlorotoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
2-Hexanone (MBK)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
4-Chlorotoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
4-Isopropyltoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
4-Methyl-2-pentanone (MIBK)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Acetone	33100 ug/L	2500	ug/L		33900 ug/L			2.26	30	
Acetonitrile	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Acrolein	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Acrylonitrile	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Allyl chloride	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Benzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromobenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromochloromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromodichloromethane	<125 ug/L	125	ug/L		<125 ug/L			NA	30	
Bromoform	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromomethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Carbon disulfide	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Carbon tetrachloride	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chlorobenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroform	<125 ug/L	125	ug/L		<125 ug/L			NA	30	
Chloromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroprene	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
cis-1,2-Dichloroethylene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
cis-1,3-Dichloropropene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Cyclohexane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Dibromochloromethane	<125 ug/L	125	ug/L		<125 ug/L			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

Dibromomethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Dichlorodifluoromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Di-isopropyl ether (DIPE)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Ethanol	<20000 ug/L	20000	ug/L		<20000 ug/L			NA	30	
Ethyl methacrylate	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Ethylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Ethyl-t-butyl ether (ETBE)	<6250 ug/L	6250	ug/L		<6250 ug/L			NA	30	
Hexachlorobutadiene	<200 ug/L	200	ug/L		<200 ug/L			NA	30	
Iodomethane	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Isopropylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
m+p-Xylenes	<500 ug/L	500	ug/L		<500 ug/L			NA	30	
Methacrylonitrile	<375 ug/L	375	ug/L		<375 ug/L			NA	30	
Methyl acetate	<1000 ug/L	1000	ug/L		<1000 ug/L			NA	30	
Methyl cyclohexane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Methyl methacrylate	<500 ug/L	500	ug/L		<500 ug/L			NA	30	
Methylene chloride	<1000 ug/L	1000	ug/L		<1000 ug/L			NA	30	
Methyl-t-butyl ether (MTBE)	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Naphthalene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
n-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
n-Propylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
o-Xylene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Pentachloroethane	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Propionitrile	<10000 ug/L	10000	ug/L		<10000 ug/L			NA	30	
sec-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Styrene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
TAAE	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
TAME	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
TBA	<25000 ug/L	25000	ug/L		<25000 ug/L			NA	30	
tert-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Tetrachloroethylene (PCE)	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Toluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:15
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

trans-1,2-Dichloroethylene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
trans-1,3-Dichloropropene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
trans-1,4-Dichloro-2-butene	<1000 ug/L	1000	ug/L	<1000 ug/L				NA	30	
Trichloroethylene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
Trichlorofluoromethane	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
Vinyl acetate	<2500 ug/L	2500	ug/L	<2500 ug/L				NA	30	
Vinyl chloride	<125 ug/L	125	ug/L	<125 ug/L				NA	30	
Xylenes, Total	<750 ug/L	750	ug/L	<750 ug/L				NA	30	
Tetrahydrofuran	<2500 ug/L	2500	ug/L	<2500 ug/L				NA	30	
Diethyl ether	2560 ug/L	1250	ug/L	2720 ug/L				5.77	30	

Surr: 1,2-Dichloroethane-d4 (Surr)	45.6		ug/L	50.0	ug/L	91.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.5		ug/L	50.0	ug/L	93.0	75-120			
Surr: Dibromofluoromethane (Surr)	45.7		ug/L	50.0	ug/L	91.3	70-130			
Surr: Toluene-d8 (Surr)	48.0		ug/L	50.0	ug/L	95.9	70-130			

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	46.8 ug/L	0.4	ug/L	50.0	<0.4 ug/L	93.5	80-130			
1,1,1-Trichloroethane	47.5 ug/L	1	ug/L	50.0	<1 ug/L	95.1	65-130			
1,1,2,2-Tetrachloroethane	45.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	91.4	65-130			
1,1,2-Trichloroethane	47.7 ug/L	1	ug/L	50.0	<1 ug/L	95.4	75-125			
1,1-Dichloroethane	44.7 ug/L	1	ug/L	50.0	<1 ug/L	89.4	70-135			
1,1-Dichloroethylene	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.2	50-145			
1,1-Dichloropropene	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.8	75-135			
1,2,3-Trichlorobenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	55-140			
1,2,3-Trichloropropane	43.7 ug/L	1	ug/L	50.0	<1 ug/L	87.4	75-125			
1,2,4-Trichlorobenzene	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	65-135			
1,2,4-Trimethylbenzene	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.9	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	40.8 ug/L	1	ug/L	50.0	<1 ug/L	81.6	50-130			
1,2-Dibromoethane (EDB)	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.9	80-120			
1,2-Dichlorobenzene	49.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.8	70-120			
1,2-Dichloroethane	40.5 ug/L	1	ug/L	50.0	<1 ug/L	81.0	70-130			
1,2-Dichloropropane	45.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	91.7	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

1,3,5-Trimethylbenzene	46.5 ug/L	1	ug/L	50.0	<1 ug/L	93.0	75-124			
1,3-Dichlorobenzene	49.5 ug/L	1	ug/L	50.0	<1 ug/L	99.0	75-125			
1,3-Dichloropropane	44.5 ug/L	1	ug/L	50.0	<1 ug/L	89.0	75-125			
1,4-Dichlorobenzene	48.1 ug/L	1	ug/L	50.0	<1 ug/L	96.2	75-125			
2,2-Dichloropropane	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.1	70-135			
2-Butanone (MEK)	42.6 ug/L	10	ug/L	50.0	<10 ug/L	85.2	30-150			
2-Chlorotoluene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125			
2-Hexanone (MBK)	42.6 ug/L	5	ug/L	50.0	<5 ug/L	85.3	55-130			
4-Chlorotoluene	49.5 ug/L	1	ug/L	50.0	<1 ug/L	99.0	75-130			
4-Isopropyltoluene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	75-130			
4-Methyl-2-pentanone (MIBK)	43.3 ug/L	5	ug/L	50.0	<5 ug/L	86.7	60-135			
Acetone	146 ug/L	10	ug/L	50.0	122 ug/L	46.7	40-140			
Benzene	45.8 ug/L	1	ug/L	50.0	<1 ug/L	91.6	80-120			
Bromobenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.3	75-125			
Bromochloromethane	44.4 ug/L	1	ug/L	50.0	<1 ug/L	88.9	65-130			
Bromodichloromethane	47.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.1	75-136			
Bromoform	45.6 ug/L	1	ug/L	50.0	<1 ug/L	91.3	70-130			
Bromomethane	38.1 ug/L	1	ug/L	50.0	<1 ug/L	76.1	30-145			
Carbon disulfide	48.8 ug/L	10	ug/L	50.0	<10 ug/L	97.6	35-160			
Carbon tetrachloride	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	65-140			
Chlorobenzene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.6	80-120			
Chloroethane	43.2 ug/L	1	ug/L	50.0	<1 ug/L	86.3	60-135			
Chloroform	43.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	87.2	65-135			
Chloromethane	36.6 ug/L	1	ug/L	50.0	<1 ug/L	73.2	40-125			
cis-1,2-Dichloroethylene	45.3 ug/L	1	ug/L	50.0	<1 ug/L	90.6	70-125			
cis-1,3-Dichloropropene	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.8	47-136			
Dibromochloromethane	48.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	95.9	60-135			
Dibromomethane	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.7	75-125			
Dichlorodifluoromethane	41.9 ug/L	1	ug/L	50.0	<1 ug/L	83.7	30-155			
Ethylbenzene	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-125			
Hexachlorobutadiene	55.2 ug/L	0.8	ug/L	50.0	<0.8 ug/L	110	50-140			



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

Isopropylbenzene	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.3	75-125			
m+p-Xylenes	101 ug/L	2	ug/L	100	<2 ug/L	101	75-130			
Methylene chloride	45.0 ug/L	4	ug/L	50.0	<4 ug/L	88.2	55-140			
Methyl-t-butyl ether (MTBE)	40.4 ug/L	1	ug/L	50.0	<1 ug/L	80.7	65-125			
Naphthalene	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.6	55-140			
n-Butylbenzene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	70-135			
n-Propylbenzene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
o-Xylene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120			
sec-Butylbenzene	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	70-125			
Styrene	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.3	65-135			
tert-Butylbenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	70-130			
Tetrachloroethylene (PCE)	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	51-231			
Toluene	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-120			
trans-1,2-Dichloroethylene	46.1 ug/L	1	ug/L	50.0	<1 ug/L	92.3	60-140			
trans-1,3-Dichloropropene	46.7 ug/L	1	ug/L	50.0	<1 ug/L	93.4	55-140			
Trichloroethylene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	70-125			
Trichlorofluoromethane	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	60-145			
Vinyl chloride	44.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	89.1	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	45.3		ug/L	50.0	ug/L	90.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.5		ug/L	50.0	ug/L	95.1	75-120			
Surr: Dibromofluoromethane (Surr)	47.7		ug/L	50.0	ug/L	95.3	70-130			
Surr: Toluene-d8 (Surr)	49.4		ug/L	50.0	ug/L	98.8	70-130			



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	88.3		ug/L	100		88.3	5-136			
Surr: 2-Fluorobiphenyl (Surr)	38.6		ug/L	50.0		77.1	9-117			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Surr: 2-Fluorophenol (Surr)	51.8		ug/L	100		51.8	5-60			
Surr: Nitrobenzene-d5 (Surr)	42.6		ug/L	50.0		85.2	5-151			
Surr: Phenol-d5 (Surr)	31.3		ug/L	100		31.3	5-60			
Surr: p-Terphenyl-d14 (Surr)	37.3		ug/L	50.0		74.7	5-141			

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

1,2,4-Trichlorobenzene	30.0 ug/L	10.0	ug/L	50.0	ug/L	59.9	57-130			
1,2-Dichlorobenzene	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	22-115			
1,3-Dichlorobenzene	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.4	22-112			
1,4-Dichlorobenzene	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.1	13-112			
2,4,6-Trichlorophenol	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.3	52-129			
2,4-Dichlorophenol	33.9 ug/L	10.0	ug/L	50.0	ug/L	67.9	53-122			
2,4-Dimethylphenol	35.0 ug/L	5.00	ug/L	50.0	ug/L	70.1	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	60.5	48-127			
2,4-Dinitrotoluene	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.7	10-173			
2,6-Dinitrotoluene	32.7 ug/L	10.0	ug/L	50.0	ug/L	65.4	68-137			L
2-Chloronaphthalene	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.5	65-120			
2-Chlorophenol	33.6 ug/L	10.0	ug/L	50.0	ug/L	67.2	36-120			
2-Nitrophenol	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.3	45-167			
3,3'-Dichlorobenzidine	27.9 ug/L	10.0	ug/L	50.0	ug/L	55.9	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	62.6	53-130			
4-Bromophenyl phenyl ether	31.5 ug/L	10.0	ug/L	50.0	ug/L	63.1	65-120			L
4-Chlorophenyl phenyl ether	31.5 ug/L	10.0	ug/L	50.0	ug/L	63.0	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	19.9	13-129			
Acenaphthene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	60-132			
Acenaphthylene	39.7 ug/L	10.0	ug/L	50.0	ug/L	79.4	54-126			
Acetophenone	34.7 ug/L	20.0	ug/L	50.0	ug/L	69.4	0-200			
Anthracene	36.1 ug/L	10.0	ug/L	50.0	ug/L	72.2	43-120			
Benzo (a) anthracene	36.9 ug/L	10.0	ug/L	50.0	ug/L	73.8	42-133			
Benzo (a) pyrene	40.7 ug/L	10.0	ug/L	50.0	ug/L	81.3	32-148			
Benzo (b) fluoranthene	42.2 ug/L	10.0	ug/L	50.0	ug/L	84.3	42-140			
Benzo (g,h,i) perylene	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	10-195			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 02, 2024 17:15
 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Benzo (k) fluoranthene	36.2 ug/L	10.0	ug/L	50.0	ug/L	72.3	25-146			
bis (2-Chloroethoxy) methane	32.7 ug/L	10.0	ug/L	50.0	ug/L	65.4	49-165			
bis (2-Chloroethyl) ether	31.4 ug/L	10.0	ug/L	50.0	ug/L	62.8	43-126			
2,2'-Oxybis (1-chloropropane)	34.8 ug/L	10.0	ug/L	50.0	ug/L	69.6	63-139			
bis (2-Ethylhexyl) phthalate	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.4	29-137			
Butyl benzyl phthalate	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.0	10-140			
Chrysene	39.4 ug/L	10.0	ug/L	50.0	ug/L	78.7	44-140			
Dibenz (a,h) anthracene	43.4 ug/L	10.0	ug/L	50.0	ug/L	86.7	10-200			
Diethyl phthalate	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	10-120			
Dimethyl phthalate	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.4	10-120			
Di-n-butyl phthalate	53.6 ug/L	10.0	ug/L	50.0	ug/L	107	10-120			
Di-n-octyl phthalate	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	19-132			
Fluoranthene	45.8 ug/L	10.0	ug/L	50.0	ug/L	91.6	43-121			
Fluorene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.3	70-120			
Hexachlorobenzene	27.1 ug/L	1.00	ug/L	50.0	ug/L	54.3	10-142			
Hexachlorobutadiene	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.1	38-120			
Hexachlorocyclopentadiene	20.5 ug/L	10.0	ug/L	50.0	ug/L	41.0	10-76			
Hexachloroethane	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	55-120			
Indeno (1,2,3-cd) pyrene	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	10-151			
Isophorone	25.0 ug/L	10.0	ug/L	50.0	ug/L	49.9	47-180			
Naphthalene	38.4 ug/L	5.00	ug/L	50.0	ug/L	76.7	36-120			
Nitrobenzene	38.0 ug/L	10.0	ug/L	50.0	ug/L	76.0	54-158			
n-Nitrosodimethylamine	19.4 ug/L	10.0	ug/L	50.0	ug/L	38.7	10-85			
n-Nitrosodi-n-propylamine	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.1	14-198			
n-Nitrosodiphenylamine	29.0 ug/L	10.0	ug/L	50.0	ug/L	58.0	12-97			
p-Chloro-m-cresol	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.1	10-142			
Pentachlorophenol	23.3 ug/L	20.0	ug/L	50.0	ug/L	46.5	38-152			
Phenanthrene	43.0 ug/L	10.0	ug/L	50.0	ug/L	85.9	65-120			
Phenol	13.0 ug/L	10.0	ug/L	50.5	ug/L	25.8	17-120			
Pyrene	34.9 ug/L	10.0	ug/L	50.0	ug/L	69.8	70-120			L
Pyridine	29.1 ug/L	10.0	ug/L	50.0	ug/L	58.2	10-103			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Surr: 2,4,6-Tribromophenol (Surr)	84.8		ug/L	100	ug/L	84.8	5-136			
Surr: 2-Fluorobiphenyl (Surr)	35.4		ug/L	50.0	ug/L	70.8	9-117			
Surr: 2-Fluorophenol (Surr)	48.4		ug/L	100	ug/L	48.4	5-60			
Surr: Nitrobenzene-d5 (Surr)	38.4		ug/L	50.0	ug/L	76.7	5-151			
Surr: Phenol-d5 (Surr)	29.7		ug/L	100	ug/L	29.7	5-60			
Surr: p-Terphenyl-d14 (Surr)	34.1		ug/L	50.0	ug/L	68.2	5-141			



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Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP

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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP

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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Summary of Data Qualifiers

L LCS recovery is outside of established acceptance limits

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: <u>Total Environmental Concepts</u>		INVOICE TO: <u>same</u>	PROJECT NAME/Quote #: <u>State Lead</u>
CONTACT: <u>Shanna Brynniak</u>		INVOICE CONTACT: <u>Shanna</u>	SITE NAME: <u>Halstead Res. Release Tr.</u>
ADDRESS: <u>8382 Terminal Road, Lorton, VA</u>		INVOICE ADDRESS: <u>same</u>	PROJECT NUMBER: <u>4260155</u>
PHONE #: <u>804-389-7983</u>		INVOICE PHONE #: <u>703-567-4346</u>	P.O. #:
FAX #: <u>N/A</u>		EMAIL: <u>shanna@totalenv.com</u>	Pretreatment Program: <u>No</u>
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State: <u>VA</u>	Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
SAMPLER NAME (PRINT): <u>David C. Bailey</u>		SAMPLER SIGNATURE: <u>[Signature]</u>	
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soils/Solids OR=Organic A=Air WP=Wipe OT=Other		Turn Around Time: Circle 10 5 Days or Days)	
CLIENT SAMPLE I.D.		ANALYSIS / (PRESERVATIVE)	
1) <u>M. Richardson</u>	<input checked="" type="checkbox"/> Grab	<input type="checkbox"/> Composite	<input type="checkbox"/> Field Filtered (Dissolved Metals)
2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) <u>S. Bush</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REMOVED/SHIPPED:	DATE / TIME	RECEIVED:	DATE / TIME
<u>[Signature]</u>	<u>12-27-23 12:22</u>	<u>[Signature]</u>	<u>12/27/23 12:27</u>
REMOVED/SHIPPED:	DATE / TIME	RECEIVED:	DATE / TIME
<u>[Signature]</u>	<u>12-27-23 12:22</u>	<u>[Signature]</u>	<u>12/27/23 12:27</u>
REMOVED/SHIPPED:	DATE / TIME	RECEIVED:	DATE / TIME
<u>[Signature]</u>	<u>12-27-23 12:22</u>	<u>[Signature]</u>	<u>12/27/23 12:27</u>
QC Data Package	Level III <input type="checkbox"/>	Level IV <input type="checkbox"/>	LAB USE ONLY Therm ID: _____
LAB USE ONLY	Custody Seals used and Intact? (Y/N)	COOLER TEMP _____ °C	Received on lot? (Y/N)
TEC-Springfield		23L1422	
Halstead			
Recd: 12/27/2023		Due: 01/02/2024	

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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:15
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	8.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

*The sample was received outside of the 0-6 C holding temperature (8.6 C). Analysis to proceed per David Dudley at drop-off.
 *See work order 23L1428 for sample "J. Bush".

Per Shanna Hryvniak via phone:

- *The work order was logged for a 3-day turnaround time.
 - *The sample was logged for SVOC 8270 and VOC 8260.
 - *Trip blanks were added to the work order per the bottle labels (12/08/23 1210).
- MRS 12/27/23 1351



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Certificate of Analysis

Final Report

Laboratory Order ID 23L1428

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Date Received: December 27, 2023 12:27

Date Issued: January 2, 2024 17:16

Project Number: 4260155

Purchase Order: 4260155-001

Client Site I.D.: Coopers Cove Res. Release Inv.

Enclosed are the results of analyses for samples received by the laboratory on 12/27/2023 12:27. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B
Lorton VA, 22079

Submitted To: Shanna Hryvniak

Client Site I.D.: Coopers Cove Res.
Release Inv.

Date Issued: January 02, 2024 17:16
Project Number: 4260155
Purchase Order: 4260155-001

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 23L1428

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J. Bush 5444 Windermere Way	23L1428-01	Ground Water	12/26/2023 14:15	12/27/2023 12:27



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D. J. Bush

Laboratory Sample ID: 23L1428-01

Grab Date/Time: 12/26/2023 14:15

Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:55	12/27/23 16:55	TLH
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/27/23 16:55	12/27/23 16:55	TLH
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D. J. Bush

Laboratory Sample ID: 23L1428-01

Grab Date/Time: 12/26/2023 14:15

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:55	12/27/23 16:55	TLH
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:55	12/27/23 16:55	TLH
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Chloroform	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	12/27/23 16:55	12/27/23 16:55	TLH
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:55	12/27/23 16:55	TLH
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	12/27/23 16:55	12/27/23 16:55	TLH



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D. J. Bush Laboratory Sample ID: 23L1428-01
 Grab Date/Time: 12/26/2023 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	12/27/23 16:55	12/27/23 16:55	TLH
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	12/27/23 16:55	12/27/23 16:55	TLH
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	12/27/23 16:55	12/27/23 16:55	TLH
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	95.1 %		70-120		12/27/23 16:55	12/27/23 16:55	TLH
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	95.4 %		75-120		12/27/23 16:55	12/27/23 16:55	TLH
Surr: Dibromofluoromethane (Surr)	01	SW8260D	92.9 %		70-130		12/27/23 16:55	12/27/23 16:55	TLH
Surr: Toluene-d8 (Surr)	01	SW8260D	95.3 %		70-130		12/27/23 16:55	12/27/23 16:55	TLH

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D.	J. Bush	Laboratory Sample ID:	23L1428-01
Grab Date/Time:	12/26/2023 14:15	Field pH:	
Field Residual Cl:			

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/28/23 08:50	12/29/23 19:46	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D. J. Bush

Laboratory Sample ID: 23L1428-01

Grab Date/Time: 12/26/2023 14:15

Field Residual CI:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D. J. Bush Laboratory Sample ID: 23L1428-01
 Grab Date/Time: 12/26/2023 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:46	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	12/28/23 08:50	12/29/23 19:46	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	12/28/23 08:50	12/29/23 19:46	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Laboratory Order ID: 23L1428

Analytical Results

Sample I.D.	J. Bush	Laboratory Sample ID:	23L1428-01
Grab Date/Time:	12/26/2023 14:15	Field pH:	
Field Residual Cl:			

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	12/28/23 08:50	12/29/23 19:46	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	12/28/23 08:50	12/29/23 19:46	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	84.6 %		5-136		12/28/23 08:50	12/29/23 19:46	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	70.9 %		9-117		12/28/23 08:50	12/29/23 19:46	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	40.2 %		5-60		12/28/23 08:50	12/29/23 19:46	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	80.1 %		5-151		12/28/23 08:50	12/29/23 19:46	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	25.8 %		5-60		12/28/23 08:50	12/29/23 19:46	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	65.6 %		5-141		12/28/23 08:50	12/29/23 19:46	BMS



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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatle Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
23L1428-01	1070 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
23L1428-01	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BGL1115-BLK1	1000 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271
BGL1115-BS1	1000 mL / 1.00 mL	SW8270E	BGL1115	SHA0004	AK30271
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BGL1079-BLK1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-BS1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-DUP1	5.00 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373
BGL1079-MS1	0.0200 mL / 5.00 mL	SW8260D	BGL1079	SGL0998	AJ30373



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,4-Dioxane	<80.0 ug/L	80.0	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chloroethyl vinyl ether	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Acetonitrile	<10.0 ug/L	10.0	ug/L							



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Acrolein	<10.0 ug/L	10.0	ug/L							
Acrylonitrile	<5.00 ug/L	5.00	ug/L							
Allyl chloride	<1.00 ug/L	1.00	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							
Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
Chloroprene	<5.00 ug/L	5.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Cyclohexane	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethanol	<80.0 ug/L	80.0	ug/L							
Ethyl methacrylate	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Ethyl-t-butyl ether (ETBE)	<25.0 ug/L	25.0	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Methacrylonitrile	<1.50 ug/L	1.50	ug/L							
Methyl acetate	<4.00 ug/L	4.00	ug/L							
Methyl cyclohexane	<1.00 ug/L	1.00	ug/L							
Methyl methacrylate	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
Pentachloroethane	<10.0 ug/L	10.0	ug/L							
Propionitrile	<40.0 ug/L	40.0	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
TAAE	<5.00 ug/L	5.00	ug/L							
TAME	<5.00 ug/L	5.00	ug/L							
TBA	<100 ug/L	100	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
trans-1,4-Dichloro-2-butene	<4.00 ug/L	4.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
Diethyl ether	<5.00 ug/L	5.00	ug/L							
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	45.8		ug/L	50.0		91.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.5		ug/L	50.0		93.0	75-120			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Blank (BGL1079-BLK1)

Prepared & Analyzed: 12/27/2023

Surr: Dibromofluoromethane (Surr)	46.8		ug/L	50.0		93.6	70-130			
Surr: Toluene-d8 (Surr)	48.4		ug/L	50.0		96.9	70-130			

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	49.4 ug/L	0.4	ug/L	50.0	ug/L	98.9	80-130			
1,1,1-Trichloroethane	50.8 ug/L	1	ug/L	50.0	ug/L	102	65-130			
1,1,2,2-Tetrachloroethane	46.7 ug/L	0.4	ug/L	50.0	ug/L	93.3	65-130			
1,1,2-Trichloroethane	50.2 ug/L	1	ug/L	50.0	ug/L	100	75-125			
1,1-Dichloroethane	48.8 ug/L	1	ug/L	50.0	ug/L	97.5	70-135			
1,1-Dichloroethylene	51.1 ug/L	1	ug/L	50.0	ug/L	102	70-130			
1,1-Dichloropropene	53.6 ug/L	1	ug/L	50.0	ug/L	107	75-135			
1,2,3-Trichlorobenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.2	55-140			
1,2,3-Trichloropropane	43.9 ug/L	1	ug/L	50.0	ug/L	87.8	75-125			
1,2,4-Trichlorobenzene	50.6 ug/L	1	ug/L	50.0	ug/L	101	65-135			
1,2,4-Trimethylbenzene	50.5 ug/L	1	ug/L	50.0	ug/L	101	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	40.4 ug/L	1	ug/L	50.0	ug/L	80.8	50-130			
1,2-Dibromoethane (EDB)	48.2 ug/L	1	ug/L	50.0	ug/L	96.3	80-120			
1,2-Dichlorobenzene	50.8 ug/L	0.5	ug/L	50.0	ug/L	102	70-120			
1,2-Dichloroethane	43.2 ug/L	1	ug/L	50.0	ug/L	86.3	70-130			
1,2-Dichloropropane	47.8 ug/L	0.5	ug/L	50.0	ug/L	95.6	75-125			
1,3,5-Trimethylbenzene	49.1 ug/L	1	ug/L	50.0	ug/L	98.3	75-125			
1,3-Dichlorobenzene	52.0 ug/L	1	ug/L	50.0	ug/L	104	75-125			
1,3-Dichloropropane	45.7 ug/L	1	ug/L	50.0	ug/L	91.4	75-125			
1,4-Dichlorobenzene	49.6 ug/L	1	ug/L	50.0	ug/L	99.1	75-125			
2,2-Dichloropropane	51.2 ug/L	1	ug/L	50.0	ug/L	102	70-135			
2-Butanone (MEK)	39.9 ug/L	10	ug/L	50.0	ug/L	79.8	30-150			
2-Chlorotoluene	52.2 ug/L	1	ug/L	50.0	ug/L	104	75-125			
2-Hexanone (MBK)	41.3 ug/L	5	ug/L	50.0	ug/L	82.5	55-130			
4-Chlorotoluene	51.1 ug/L	1	ug/L	50.0	ug/L	102	75-130			
4-Isopropyltoluene	52.5 ug/L	1	ug/L	50.0	ug/L	105	75-130			
4-Methyl-2-pentanone (MIBK)	41.6 ug/L	5	ug/L	50.0	ug/L	83.2	60-135			
Acetone	39.7 ug/L	10	ug/L	50.0	ug/L	79.5	40-140			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

Benzene	47.6 ug/L	1	ug/L	50.0	ug/L	95.3	80-120			
Bromobenzene	52.4 ug/L	1	ug/L	50.0	ug/L	105	75-125			
Bromochloromethane	48.4 ug/L	1	ug/L	50.0	ug/L	96.8	65-130			
Bromodichloromethane	48.2 ug/L	0.5	ug/L	50.0	ug/L	96.3	75-120			
Bromoform	48.3 ug/L	1	ug/L	50.0	ug/L	96.5	70-130			
Bromomethane	37.3 ug/L	1	ug/L	50.0	ug/L	74.7	30-145			
Carbon disulfide	51.2 ug/L	10	ug/L	50.0	ug/L	102	35-160			
Carbon tetrachloride	56.3 ug/L	1	ug/L	50.0	ug/L	113	65-140			
Chlorobenzene	51.4 ug/L	1	ug/L	50.0	ug/L	103	80-120			
Chloroethane	47.0 ug/L	1	ug/L	50.0	ug/L	94.0	60-135			
Chloroform	47.2 ug/L	0.5	ug/L	50.0	ug/L	94.4	65-135			
Chloromethane	40.4 ug/L	1	ug/L	50.0	ug/L	80.7	40-125			
cis-1,2-Dichloroethylene	50.4 ug/L	1	ug/L	50.0	ug/L	101	70-125			
cis-1,3-Dichloropropene	48.1 ug/L	1	ug/L	50.0	ug/L	96.3	70-130			
Dibromochloromethane	49.8 ug/L	0.5	ug/L	50.0	ug/L	99.6	60-135			
Dibromomethane	46.9 ug/L	1	ug/L	50.0	ug/L	93.7	75-125			
Dichlorodifluoromethane	46.6 ug/L	1	ug/L	50.0	ug/L	93.2	30-155			
Ethylbenzene	51.6 ug/L	1	ug/L	50.0	ug/L	103	75-125			
Hexachlorobutadiene	56.6 ug/L	0.8	ug/L	50.0	ug/L	113	50-140			
Isopropylbenzene	50.3 ug/L	1	ug/L	50.0	ug/L	101	75-125			
m+p-Xylenes	107 ug/L	2	ug/L	100	ug/L	107	75-130			
Methylene chloride	51.8 ug/L	4	ug/L	50.0	ug/L	104	55-140			
Methyl-t-butyl ether (MTBE)	43.2 ug/L	1	ug/L	50.0	ug/L	86.3	65-125			
Naphthalene	46.2 ug/L	1	ug/L	50.0	ug/L	92.5	55-140			
n-Butylbenzene	52.5 ug/L	1	ug/L	50.0	ug/L	105	70-135			
n-Propylbenzene	54.4 ug/L	1	ug/L	50.0	ug/L	109	70-130			
o-Xylene	52.1 ug/L	1	ug/L	50.0	ug/L	104	80-120			
sec-Butylbenzene	56.7 ug/L	1	ug/L	50.0	ug/L	113	70-125			
Styrene	48.9 ug/L	1	ug/L	50.0	ug/L	97.8	65-135			
tert-Butylbenzene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-130			
Tetrachloroethylene (PCE)	59.9 ug/L	1	ug/L	50.0	ug/L	120	45-150			



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

LCS (BGL1079-BS1)

Prepared & Analyzed: 12/27/2023

Toluene	52.7 ug/L	1	ug/L	50.0	ug/L	105	75-120			
trans-1,2-Dichloroethylene	50.6 ug/L	1	ug/L	50.0	ug/L	101	60-140			
trans-1,3-Dichloropropene	49.6 ug/L	1	ug/L	50.0	ug/L	99.2	55-140			
Trichloroethylene	52.5 ug/L	1	ug/L	50.0	ug/L	105	70-125			
Trichlorofluoromethane	57.9 ug/L	1	ug/L	50.0	ug/L	116	60-145			
Vinyl chloride	48.8 ug/L	0.5	ug/L	50.0	ug/L	97.5	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	46.2		ug/L	50.0	ug/L	92.3	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.5		ug/L	50.0	ug/L	95.1	75-120			
Surr: Dibromofluoromethane (Surr)	48.2		ug/L	50.0	ug/L	96.4	70-130			
Surr: Toluene-d8 (Surr)	46.4		ug/L	50.0	ug/L	92.9	70-130			

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	<100 ug/L	100	ug/L	<100	ug/L			NA	30	
1,1,1-Trichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1,2,2-Tetrachloroethane	<100 ug/L	100	ug/L	<100	ug/L			NA	30	
1,1,2-Trichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloroethylene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,1-Dichloropropene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,3-Trichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,3-Trichloropropane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,4-Trichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2,4-Trimethylbenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dibromo-3-chloropropane (DBCP)	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dibromoethane (EDB)	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dichlorobenzene	<125 ug/L	125	ug/L	<125	ug/L			NA	30	
1,2-Dichloroethane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,2-Dichloropropane	<125 ug/L	125	ug/L	<125	ug/L			NA	30	
1,3,5-Trimethylbenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,3-Dichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,3-Dichloropropane	<250 ug/L	250	ug/L	<250	ug/L			NA	30	
1,4-Dichlorobenzene	<250 ug/L	250	ug/L	<250	ug/L			NA	30	



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Certificate of Analysis

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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

1,4-Dioxane	<20000 ug/L	20000	ug/L		<20000 ug/L			NA	30	
2,2-Dichloropropane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
2-Butanone (MEK)	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
2-Chloroethyl vinyl ether	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
2-Chlorotoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
2-Hexanone (MBK)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
4-Chlorotoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
4-Isopropyltoluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
4-Methyl-2-pentanone (MIBK)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Acetone	33100 ug/L	2500	ug/L		33900 ug/L			2.26	30	
Acetonitrile	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Acrolein	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Acrylonitrile	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Allyl chloride	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Benzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromobenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromochloromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromodichloromethane	<125 ug/L	125	ug/L		<125 ug/L			NA	30	
Bromoform	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Bromomethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Carbon disulfide	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Carbon tetrachloride	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chlorobenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroform	<125 ug/L	125	ug/L		<125 ug/L			NA	30	
Chloromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Chloroprene	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
cis-1,2-Dichloroethylene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
cis-1,3-Dichloropropene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Cyclohexane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Dibromochloromethane	<125 ug/L	125	ug/L		<125 ug/L			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

Dibromomethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Dichlorodifluoromethane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Di-isopropyl ether (DIPE)	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Ethanol	<20000 ug/L	20000	ug/L		<20000 ug/L			NA	30	
Ethyl methacrylate	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
Ethylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Ethyl-t-butyl ether (ETBE)	<6250 ug/L	6250	ug/L		<6250 ug/L			NA	30	
Hexachlorobutadiene	<200 ug/L	200	ug/L		<200 ug/L			NA	30	
Iodomethane	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Isopropylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
m+p-Xylenes	<500 ug/L	500	ug/L		<500 ug/L			NA	30	
Methacrylonitrile	<375 ug/L	375	ug/L		<375 ug/L			NA	30	
Methyl acetate	<1000 ug/L	1000	ug/L		<1000 ug/L			NA	30	
Methyl cyclohexane	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Methyl methacrylate	<500 ug/L	500	ug/L		<500 ug/L			NA	30	
Methylene chloride	<1000 ug/L	1000	ug/L		<1000 ug/L			NA	30	
Methyl-t-butyl ether (MTBE)	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Naphthalene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
n-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
n-Propylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
o-Xylene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Pentachloroethane	<2500 ug/L	2500	ug/L		<2500 ug/L			NA	30	
Propionitrile	<10000 ug/L	10000	ug/L		<10000 ug/L			NA	30	
sec-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Styrene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
TAAE	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
TAME	<1250 ug/L	1250	ug/L		<1250 ug/L			NA	30	
TBA	<25000 ug/L	25000	ug/L		<25000 ug/L			NA	30	
tert-Butylbenzene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Tetrachloroethylene (PCE)	<250 ug/L	250	ug/L		<250 ug/L			NA	30	
Toluene	<250 ug/L	250	ug/L		<250 ug/L			NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res.
 Release Inv.

Date Issued: January 02, 2024 17:16
 Project Number: 4260155
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Duplicate (BGL1079-DUP1)

Source: 23L1317-02RE1

Prepared & Analyzed: 12/27/2023

trans-1,2-Dichloroethylene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
trans-1,3-Dichloropropene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
trans-1,4-Dichloro-2-butene	<1000 ug/L	1000	ug/L	<1000 ug/L				NA	30	
Trichloroethylene	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
Trichlorofluoromethane	<250 ug/L	250	ug/L	<250 ug/L				NA	30	
Vinyl acetate	<2500 ug/L	2500	ug/L	<2500 ug/L				NA	30	
Vinyl chloride	<125 ug/L	125	ug/L	<125 ug/L				NA	30	
Xylenes, Total	<750 ug/L	750	ug/L	<750 ug/L				NA	30	
Tetrahydrofuran	<2500 ug/L	2500	ug/L	<2500 ug/L				NA	30	
Diethyl ether	2560 ug/L	1250	ug/L	2720 ug/L				5.77	30	

Surr: 1,2-Dichloroethane-d4 (Surr)	45.6		ug/L	50.0	ug/L	91.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	46.5		ug/L	50.0	ug/L	93.0	75-120			
Surr: Dibromofluoromethane (Surr)	45.7		ug/L	50.0	ug/L	91.3	70-130			
Surr: Toluene-d8 (Surr)	48.0		ug/L	50.0	ug/L	95.9	70-130			

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

1,1,1,2-Tetrachloroethane	46.8 ug/L	0.4	ug/L	50.0	<0.4 ug/L	93.5	80-130			
1,1,1-Trichloroethane	47.5 ug/L	1	ug/L	50.0	<1 ug/L	95.1	65-130			
1,1,2,2-Tetrachloroethane	45.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	91.4	65-130			
1,1,2-Trichloroethane	47.7 ug/L	1	ug/L	50.0	<1 ug/L	95.4	75-125			
1,1-Dichloroethane	44.7 ug/L	1	ug/L	50.0	<1 ug/L	89.4	70-135			
1,1-Dichloroethylene	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.2	50-145			
1,1-Dichloropropene	49.9 ug/L	1	ug/L	50.0	<1 ug/L	99.8	75-135			
1,2,3-Trichlorobenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	55-140			
1,2,3-Trichloropropane	43.7 ug/L	1	ug/L	50.0	<1 ug/L	87.4	75-125			
1,2,4-Trichlorobenzene	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	65-135			
1,2,4-Trimethylbenzene	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.9	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	40.8 ug/L	1	ug/L	50.0	<1 ug/L	81.6	50-130			
1,2-Dibromoethane (EDB)	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.9	80-120			
1,2-Dichlorobenzene	49.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	99.8	70-120			
1,2-Dichloroethane	40.5 ug/L	1	ug/L	50.0	<1 ug/L	81.0	70-130			
1,2-Dichloropropane	45.8 ug/L	0.5	ug/L	50.0	<0.5 ug/L	91.7	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

1,3,5-Trimethylbenzene	46.5 ug/L	1	ug/L	50.0	<1 ug/L	93.0	75-124			
1,3-Dichlorobenzene	49.5 ug/L	1	ug/L	50.0	<1 ug/L	99.0	75-125			
1,3-Dichloropropane	44.5 ug/L	1	ug/L	50.0	<1 ug/L	89.0	75-125			
1,4-Dichlorobenzene	48.1 ug/L	1	ug/L	50.0	<1 ug/L	96.2	75-125			
2,2-Dichloropropane	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.1	70-135			
2-Butanone (MEK)	42.6 ug/L	10	ug/L	50.0	<10 ug/L	85.2	30-150			
2-Chlorotoluene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125			
2-Hexanone (MBK)	42.6 ug/L	5	ug/L	50.0	<5 ug/L	85.3	55-130			
4-Chlorotoluene	49.5 ug/L	1	ug/L	50.0	<1 ug/L	99.0	75-130			
4-Isopropyltoluene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	75-130			
4-Methyl-2-pentanone (MIBK)	43.3 ug/L	5	ug/L	50.0	<5 ug/L	86.7	60-135			
Acetone	146 ug/L	10	ug/L	50.0	122 ug/L	46.7	40-140			
Benzene	45.8 ug/L	1	ug/L	50.0	<1 ug/L	91.6	80-120			
Bromobenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.3	75-125			
Bromochloromethane	44.4 ug/L	1	ug/L	50.0	<1 ug/L	88.9	65-130			
Bromodichloromethane	47.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	94.1	75-136			
Bromoform	45.6 ug/L	1	ug/L	50.0	<1 ug/L	91.3	70-130			
Bromomethane	38.1 ug/L	1	ug/L	50.0	<1 ug/L	76.1	30-145			
Carbon disulfide	48.8 ug/L	10	ug/L	50.0	<10 ug/L	97.6	35-160			
Carbon tetrachloride	52.6 ug/L	1	ug/L	50.0	<1 ug/L	105	65-140			
Chlorobenzene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.6	80-120			
Chloroethane	43.2 ug/L	1	ug/L	50.0	<1 ug/L	86.3	60-135			
Chloroform	43.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	87.2	65-135			
Chloromethane	36.6 ug/L	1	ug/L	50.0	<1 ug/L	73.2	40-125			
cis-1,2-Dichloroethylene	45.3 ug/L	1	ug/L	50.0	<1 ug/L	90.6	70-125			
cis-1,3-Dichloropropene	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.8	47-136			
Dibromochloromethane	48.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	95.9	60-135			
Dibromomethane	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.7	75-125			
Dichlorodifluoromethane	41.9 ug/L	1	ug/L	50.0	<1 ug/L	83.7	30-155			
Ethylbenzene	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-125			
Hexachlorobutadiene	55.2 ug/L	0.8	ug/L	50.0	<0.8 ug/L	110	50-140			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1079 - SW5030B-MS

Matrix Spike (BGL1079-MS1)

Source: 23L1317-01RE1

Prepared & Analyzed: 12/27/2023

Isopropylbenzene	48.2 ug/L	1	ug/L	50.0	<1 ug/L	96.3	75-125			
m+p-Xylenes	101 ug/L	2	ug/L	100	<2 ug/L	101	75-130			
Methylene chloride	45.0 ug/L	4	ug/L	50.0	<4 ug/L	88.2	55-140			
Methyl-t-butyl ether (MTBE)	40.4 ug/L	1	ug/L	50.0	<1 ug/L	80.7	65-125			
Naphthalene	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.6	55-140			
n-Butylbenzene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	70-135			
n-Propylbenzene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
o-Xylene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	80-120			
sec-Butylbenzene	54.6 ug/L	1	ug/L	50.0	<1 ug/L	109	70-125			
Styrene	46.6 ug/L	1	ug/L	50.0	<1 ug/L	93.3	65-135			
tert-Butylbenzene	50.0 ug/L	1	ug/L	50.0	<1 ug/L	100	70-130			
Tetrachloroethylene (PCE)	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	51-231			
Toluene	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-120			
trans-1,2-Dichloroethylene	46.1 ug/L	1	ug/L	50.0	<1 ug/L	92.3	60-140			
trans-1,3-Dichloropropene	46.7 ug/L	1	ug/L	50.0	<1 ug/L	93.4	55-140			
Trichloroethylene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	70-125			
Trichlorofluoromethane	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	60-145			
Vinyl chloride	44.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	89.1	50-145			
<hr style="border-top: 1px dashed #000;"/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	45.3		ug/L	50.0	ug/L	90.5	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.5		ug/L	50.0	ug/L	95.1	75-120			
Surr: Dibromofluoromethane (Surr)	47.7		ug/L	50.0	ug/L	95.3	70-130			
Surr: Toluene-d8 (Surr)	49.4		ug/L	50.0	ug/L	98.8	70-130			



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	88.3		ug/L	100		88.3	5-136			
Surr: 2-Fluorobiphenyl (Surr)	38.6		ug/L	50.0		77.1	9-117			



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 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

Blank (BGL1115-BLK1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Surr: 2-Fluorophenol (Surr)	51.8		ug/L	100		51.8	5-60			
Surr: Nitrobenzene-d5 (Surr)	42.6		ug/L	50.0		85.2	5-151			
Surr: Phenol-d5 (Surr)	31.3		ug/L	100		31.3	5-60			
Surr: p-Terphenyl-d14 (Surr)	37.3		ug/L	50.0		74.7	5-141			

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

1,2,4-Trichlorobenzene	30.0 ug/L	10.0	ug/L	50.0	ug/L	59.9	57-130			
1,2-Dichlorobenzene	33.3 ug/L	10.0	ug/L	50.0	ug/L	66.6	22-115			
1,3-Dichlorobenzene	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.4	22-112			
1,4-Dichlorobenzene	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.1	13-112			
2,4,6-Trichlorophenol	37.7 ug/L	10.0	ug/L	50.0	ug/L	75.3	52-129			
2,4-Dichlorophenol	33.9 ug/L	10.0	ug/L	50.0	ug/L	67.9	53-122			
2,4-Dimethylphenol	35.0 ug/L	5.00	ug/L	50.0	ug/L	70.1	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	60.5	48-127			
2,4-Dinitrotoluene	37.3 ug/L	10.0	ug/L	50.0	ug/L	74.7	10-173			
2,6-Dinitrotoluene	32.7 ug/L	10.0	ug/L	50.0	ug/L	65.4	68-137			L
2-Chloronaphthalene	35.3 ug/L	10.0	ug/L	50.0	ug/L	70.5	65-120			
2-Chlorophenol	33.6 ug/L	10.0	ug/L	50.0	ug/L	67.2	36-120			
2-Nitrophenol	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.3	45-167			
3,3'-Dichlorobenzidine	27.9 ug/L	10.0	ug/L	50.0	ug/L	55.9	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	62.6	53-130			
4-Bromophenyl phenyl ether	31.5 ug/L	10.0	ug/L	50.0	ug/L	63.1	65-120			L
4-Chlorophenyl phenyl ether	31.5 ug/L	10.0	ug/L	50.0	ug/L	63.0	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	19.9	13-129			
Acenaphthene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	60-132			
Acenaphthylene	39.7 ug/L	10.0	ug/L	50.0	ug/L	79.4	54-126			
Acetophenone	34.7 ug/L	20.0	ug/L	50.0	ug/L	69.4	0-200			
Anthracene	36.1 ug/L	10.0	ug/L	50.0	ug/L	72.2	43-120			
Benzo (a) anthracene	36.9 ug/L	10.0	ug/L	50.0	ug/L	73.8	42-133			
Benzo (a) pyrene	40.7 ug/L	10.0	ug/L	50.0	ug/L	81.3	32-148			
Benzo (b) fluoranthene	42.2 ug/L	10.0	ug/L	50.0	ug/L	84.3	42-140			
Benzo (g,h,i) perylene	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	10-195			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 02, 2024 17:16
 8382 Terminal Rd, Bay B Project Number: 4260155
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Res. Release Inv.

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

Benzo (k) fluoranthene	36.2 ug/L	10.0	ug/L	50.0	ug/L	72.3	25-146			
bis (2-Chloroethoxy) methane	32.7 ug/L	10.0	ug/L	50.0	ug/L	65.4	49-165			
bis (2-Chloroethyl) ether	31.4 ug/L	10.0	ug/L	50.0	ug/L	62.8	43-126			
2,2'-Oxybis (1-chloropropane)	34.8 ug/L	10.0	ug/L	50.0	ug/L	69.6	63-139			
bis (2-Ethylhexyl) phthalate	31.2 ug/L	10.0	ug/L	50.0	ug/L	62.4	29-137			
Butyl benzyl phthalate	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.0	10-140			
Chrysene	39.4 ug/L	10.0	ug/L	50.0	ug/L	78.7	44-140			
Dibenz (a,h) anthracene	43.4 ug/L	10.0	ug/L	50.0	ug/L	86.7	10-200			
Diethyl phthalate	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	10-120			
Dimethyl phthalate	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.4	10-120			
Di-n-butyl phthalate	53.6 ug/L	10.0	ug/L	50.0	ug/L	107	10-120			
Di-n-octyl phthalate	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	19-132			
Fluoranthene	45.8 ug/L	10.0	ug/L	50.0	ug/L	91.6	43-121			
Fluorene	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.3	70-120			
Hexachlorobenzene	27.1 ug/L	1.00	ug/L	50.0	ug/L	54.3	10-142			
Hexachlorobutadiene	33.1 ug/L	10.0	ug/L	50.0	ug/L	66.1	38-120			
Hexachlorocyclopentadiene	20.5 ug/L	10.0	ug/L	50.0	ug/L	41.0	10-76			
Hexachloroethane	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.4	55-120			
Indeno (1,2,3-cd) pyrene	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	10-151			
Isophorone	25.0 ug/L	10.0	ug/L	50.0	ug/L	49.9	47-180			
Naphthalene	38.4 ug/L	5.00	ug/L	50.0	ug/L	76.7	36-120			
Nitrobenzene	38.0 ug/L	10.0	ug/L	50.0	ug/L	76.0	54-158			
n-Nitrosodimethylamine	19.4 ug/L	10.0	ug/L	50.0	ug/L	38.7	10-85			
n-Nitrosodi-n-propylamine	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.1	14-198			
n-Nitrosodiphenylamine	29.0 ug/L	10.0	ug/L	50.0	ug/L	58.0	12-97			
p-Chloro-m-cresol	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.1	10-142			
Pentachlorophenol	23.3 ug/L	20.0	ug/L	50.0	ug/L	46.5	38-152			
Phenanthrene	43.0 ug/L	10.0	ug/L	50.0	ug/L	85.9	65-120			
Phenol	13.0 ug/L	10.0	ug/L	50.5	ug/L	25.8	17-120			
Pyrene	34.9 ug/L	10.0	ug/L	50.0	ug/L	69.8	70-120			L
Pyridine	29.1 ug/L	10.0	ug/L	50.0	ug/L	58.2	10-103			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BGL1115 - SW3510C/EPA600-MS

LCS (BGL1115-BS1)

Prepared: 12/28/2023 Analyzed: 12/29/2023

<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	84.8		ug/L	100	ug/L	84.8	5-136			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	35.4		ug/L	50.0	ug/L	70.8	9-117			
<i>Surr: 2-Fluorophenol (Surr)</i>	48.4		ug/L	100	ug/L	48.4	5-60			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	38.4		ug/L	50.0	ug/L	76.7	5-151			
<i>Surr: Phenol-d5 (Surr)</i>	29.7		ug/L	100	ug/L	29.7	5-60			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	34.1		ug/L	50.0	ug/L	68.2	5-141			



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Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP

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Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP



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Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2023
NC	North Carolina DENR	495	12/31/2023
NCDEQ	North Carolina DEQ	495	12/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Summary of Data Qualifiers

L LCS recovery is outside of established acceptance limits

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 02, 2024 17:16
Submitted To:	Shanna Hryvniak	Project Number:	4260155
Client Site I.D.:	Coopers Cove Res. Release Inv.	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	8.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

*See work order 23L1422 for trip blank information and sample "M. Richardson".
 *The sample was received outside of the 0-6 C holding temperature (8.6 C). Analysis to proceed per David Dudley at drop-off.

Per Shanna Hryvniak via phone:
 *The work order was logged for a 3-day turnaround time.
 *The sample was logged for SVOC 8270 and VOC 8260.
 MRS 12/27/23 1350



Appendix Q

Franklin County UST Removal Permit(s)



1255 Franklin Street, Suite 103
 Rocky Mount, VA 24151
 Phone: (540)483-3047 Fax: (540)483-6665

Permit NO. **DEMO-01-2024-65447**
 Permit Type: **Demolition**
 Work Classification: **Storage Tanks**
 Permit Status: **Active**

Permit

Issue Date: **1/2/2024** Expiration: **01/01/2025**

Owner Information RAY HOLLAND	Address 1604 COOPERS COVE ROAD HARDY, VA 24101	Phone 540.314.1185	Cell 540.314.1185
Project Address 1640 COOPERS COVE ROAD HARDY, VA 24101	Zoning M1	Parcel Number 0060003500	Applicant TOTAL ENVIRONMENTAL CONCEPTS INC
	District Boone	Lot/Tract/Section # OFF RT 681-COOPERS COVE RD	Subdivision

Directions:

Mechanics Lien Agent	Address	Phone	Fax
-----------------------------	----------------	--------------	------------

Type of Construction	Use Group	Code	Year
Req. Setback Front	Req. Setback Rear	Req. Setback Right	Prop. Setback Left

Description of Work: REMOVAL OF (3) 1,000 GALLON GASOLINE UNDERGROUND STORAGE TANKS. CONCRETE PAD ABOVE WILL BE REMOVED, CONTENTS OF TANKS WILL BE VACUUMED OUT AND DISPOSED OF AND TANKS WILL BE

Valuation:	\$20,000.00
Total Sq Feet:	0

Inspection Requests:
(540) 483-3047

Contractor(s)	Address	Phone	Cell	Contractor Type
TOTAL ENVIRONMENTAL CONCEPTS INC	8382 TERMINAL ROAD, SUITE LORTON VA 22079		8043897983	Demolition

Available Inspections:

Inspection Type:	IVR
Tank Removal	830
Final	998

Number of Stories:	Exterior Wall Type:
Basement Status:	Foundation Type:

Fees Due	Amount
Demolition Fee	\$180.00
State Surcharge	\$4.00
Total:	\$184.00

Paytype	Amt Paid
Total Fees	\$184.00
Credit Card	\$184.00
Amount Due:	\$0.00

I HEREBY CERTIFY THAT I HAVE READ AND EXAMINED THIS APPLICATION AND KNOW THE SAME TO BE TRUE AND CORRECT. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT, THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER STATE OR LOCAL LAW REGULATING CONSTRUCTION OR THE PERFORMANCE OF CONSTRUCTION.

January 02, 2024

Print Name (Owner / Applicant / Contractor / Agen) _____ Authorized Signature _____ Date _____

January 02, 2024

Franklin County Building Department _____ Authorized Signature _____ Date _____

Customer Copy



1255 Franklin Street, Suite 103
 Rocky Mount, VA 24151
 Phone: (540)483-3047 Fax: (540)483-6665

Permit NO. **DEMO-01-2024-65575**
 Permit Type: **Demolition**
 Work Classification: **Storage Tanks**
 Permit Status: **Active**

Permit

Issue Date: **1/29/2024** **Expiration: 01/28/2025**

Owner Information KODIE HALSTEAD	Address 1556 COOPERS COVE ROAD HARDY, VA 24101	Phone	Cell
Project Address 1556 COOPERS COVE RD HARDY, VA 24101	Zoning M1	Parcel Number 0060003600	Applicant TOTAL ENVIRONMENTAL CONCEPTS INC
	District Boone	Lot/Tract/Section # RT 681-COOPERS COVE RD	
		Subdivision	

Directions:

Mechanics Lien Agent	Address	Phone	Fax
-----------------------------	----------------	--------------	------------

Type of Construction	Use Group	Code	Year
Req. Setback Front	Req. Setback Rear	Req. Setback Right	Prop. Setback Left

Description of Work: REMOVAL OF ONE 500-GALLON HEATING OIL UNDERGROUND STORAGE TANK (UST). EXCAVATE DOWN TO TOP OF TANK AND OPEN, CONTENTS OF TANK WILL BE VACUUMED OUT AND DISPOSED OF, AND TANK WILL BE

Valuation:	\$6,000.00
Total Sq Feet:	0

Inspection Requests:
(540) 483-3047

Contractor(s)	Address	Phone	Cell	Contractor Type
TOTAL ENVIRONMENTAL CONCEPTS INC	8382 TERMINAL ROAD, SUITE 107 ROCKY MOUNT VA 24109		8043897983	Demolition

Available Inspections:

Inspection Type:	IVR
Tank Removal	830
Final	998

Number of Stories:	Exterior Wall Type:
Basement Status:	Foundation Type:

Fees Due	Amount
Demolition Fee	\$60.00
State Surcharge	\$2.00
Total:	\$62.00

Paytype	Amt Paid
Total Fees	\$62.00
Credit Card	\$62.00
Amount Due:	\$0.00

I HEREBY CERTIFY THAT I HAVE READ AND EXAMINED THIS APPLICATION AND KNOW THE SAME TO BE TRUE AND CORRECT. ALL PROVISIONS OF LAWS AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED HEREIN OR NOT, THE GRANTING OF A PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF ANY OTHER STATE OR LOCAL LAW REGULATING CONSTRUCTION OR THE PERFORMANCE OF CONSTRUCTION.

January 29, 2024

Print Name (Owner / Applicant / Contractor / Agen) _____ Authorized Signature _____ Date _____

January 29, 2024

Franklin County Building Department _____ Authorized Signature _____ Date _____

Customer Copy



Appendix R

Laboratory Analytical Report (1/22/2024)



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 24A1289

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Date Received: January 23, 2024 11:01

Date Issued: January 26, 2024 16:20

Project Number: 4260155-001

Purchase Order: 4260155-001

Client Site I.D.: Coopers Cove Rd, Hardy VA

Enclosed are the results of analyses for samples received by the laboratory on 01/23/2024 11:01. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Enthalpy Analytical.





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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B
Lorton VA, 22079

Date Issued: January 26, 2024 16:20
Project Number: 4260155-001
Purchase Order: 4260155-001

Submitted To: Shanna Hryvniak
Client Site I.D.: Coopers Cove Rd, Hardy VA

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 24A1289

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
D. Martin	24A1289-01	Ground Water	01/22/2024 10:00	01/23/2024 11:01
C. Lomax-CW	24A1289-02	Ground Water	01/22/2024 11:15	01/23/2024 11:01



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin

Laboratory Sample ID: 24A1289-01

Grab Date/Time: 01/22/2024 10:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	01/23/24 16:50	01/23/24 16:50	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	01/23/24 16:50	01/23/24 16:50	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	01/23/24 16:50	01/23/24 16:50	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin Laboratory Sample ID: 24A1289-01
 Grab Date/Time: 01/22/2024 10:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L	5.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Acetone	01	SW8260D	<10.0 ug/L	10.0	1	01/23/24 16:50	01/23/24 16:50	RJB	
Benzene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Bromobenzene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Bromochloromethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Bromodichloromethane	01	SW8260D	<0.50 ug/L	0.50	1	01/23/24 16:50	01/23/24 16:50	RJB	
Bromoform	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Bromomethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Carbon disulfide	01	SW8260D	<10.0 ug/L	10.0	1	01/23/24 16:50	01/23/24 16:50	RJB	
Carbon tetrachloride	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Chlorobenzene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Chloroethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Chloroform	01	SW8260D	<0.50 ug/L	0.50	1	01/23/24 16:50	01/23/24 16:50	RJB	
Chloromethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Dibromochloromethane	01	SW8260D	<0.50 ug/L	0.50	1	01/23/24 16:50	01/23/24 16:50	RJB	
Dibromomethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L	5.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Ethylbenzene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L	0.80	1	01/23/24 16:50	01/23/24 16:50	RJB	
Iodomethane	01	SW8260D	<10.0 ug/L	10.0	1	01/23/24 16:50	01/23/24 16:50	RJB	
Isopropylbenzene	01	SW8260D	<1.00 ug/L	1.00	1	01/23/24 16:50	01/23/24 16:50	RJB	
m+p-Xylenes	01	SW8260D	<2.00 ug/L	2.00	1	01/23/24 16:50	01/23/24 16:50	RJB	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin

Laboratory Sample ID: 24A1289-01

Grab Date/Time: 01/22/2024 10:00

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	01/23/24 16:50	01/23/24 16:50	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	01/23/24 16:50	01/23/24 16:50	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	01/23/24 16:50	01/23/24 16:50	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	98.1 %		70-120		01/23/24 16:50	01/23/24 16:50	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	98.4 %		75-120		01/23/24 16:50	01/23/24 16:50	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	100 %		70-130		01/23/24 16:50	01/23/24 16:50	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	91.4 %		70-130		01/23/24 16:50	01/23/24 16:50	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin	Laboratory Sample ID: 24A1289-01
Grab Date/Time: 01/22/2024 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	01/24/24 09:30	01/25/24 23:03	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin	Laboratory Sample ID: 24A1289-01
Grab Date/Time: 01/22/2024 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin	Laboratory Sample ID: 24A1289-01
Grab Date/Time: 01/22/2024 10:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:03	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	01/24/24 09:30	01/25/24 23:03	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:03	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. D. Martin	Laboratory Sample ID: 24A1289-01
Grab Date/Time: 01/22/2024 10:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	01/24/24 09:30	01/25/24 23:03	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:03	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	78.9 %		5-136		01/24/24 09:30	01/25/24 23:03	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	76.7 %		9-117		01/24/24 09:30	01/25/24 23:03	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	40.1 %		5-60		01/24/24 09:30	01/25/24 23:03	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	78.3 %		5-151		01/24/24 09:30	01/25/24 23:03	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	24.4 %		5-60		01/24/24 09:30	01/25/24 23:03	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	75.1 %		5-141		01/24/24 09:30	01/25/24 23:03	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	01/23/24 17:12	01/23/24 17:12	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	01/23/24 17:12	01/23/24 17:12	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	01/23/24 17:12	01/23/24 17:12	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L	5.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Acetone	02	SW8260D	<10.0 ug/L	10.0	1	01/23/24 17:12	01/23/24 17:12	RJB	
Benzene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Bromobenzene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Bromochloromethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Bromodichloromethane	02	SW8260D	<0.50 ug/L	0.50	1	01/23/24 17:12	01/23/24 17:12	RJB	
Bromoform	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Bromomethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Carbon disulfide	02	SW8260D	<10.0 ug/L	10.0	1	01/23/24 17:12	01/23/24 17:12	RJB	
Carbon tetrachloride	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Chlorobenzene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Chloroethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Chloroform	02	SW8260D	<0.50 ug/L	0.50	1	01/23/24 17:12	01/23/24 17:12	RJB	
Chloromethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Dibromochloromethane	02	SW8260D	<0.50 ug/L	0.50	1	01/23/24 17:12	01/23/24 17:12	RJB	
Dibromomethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L	5.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Ethylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L	0.80	1	01/23/24 17:12	01/23/24 17:12	RJB	
Iodomethane	02	SW8260D	<10.0 ug/L	10.0	1	01/23/24 17:12	01/23/24 17:12	RJB	
Isopropylbenzene	02	SW8260D	<1.00 ug/L	1.00	1	01/23/24 17:12	01/23/24 17:12	RJB	
m+p-Xylenes	02	SW8260D	<2.00 ug/L	2.00	1	01/23/24 17:12	01/23/24 17:12	RJB	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	01/23/24 17:12	01/23/24 17:12	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	01/23/24 17:12	01/23/24 17:12	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	01/23/24 17:12	01/23/24 17:12	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	98.8 %		70-120		01/23/24 17:12	01/23/24 17:12	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	94.1 %		75-120		01/23/24 17:12	01/23/24 17:12	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	93.4 %		70-130		01/23/24 17:12	01/23/24 17:12	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	98.5 %		70-130		01/23/24 17:12	01/23/24 17:12	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	01/24/24 09:30	01/25/24 23:32	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 26, 2024 16:20
 8382 Terminal Rd, Bay B Project Number: 4260155-001
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:32	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	01/24/24 09:30	01/25/24 23:32	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	01/24/24 09:30	01/25/24 23:32	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Laboratory Order ID: 24A1289

Analytical Results

Sample I.D. C. Lomax-CW

Laboratory Sample ID: 24A1289-02

Grab Date/Time: 01/22/2024 11:15

Field Residual Cl:

Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	01/24/24 09:30	01/25/24 23:32	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	01/24/24 09:30	01/25/24 23:32	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	79.8 %		5-136		01/24/24 09:30	01/25/24 23:32	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	77.6 %		9-117		01/24/24 09:30	01/25/24 23:32	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	38.2 %		5-60		01/24/24 09:30	01/25/24 23:32	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	80.8 %		5-151		01/24/24 09:30	01/25/24 23:32	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	23.9 %		5-60		01/24/24 09:30	01/25/24 23:32	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	68.3 %		5-141		01/24/24 09:30	01/25/24 23:32	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 26, 2024 16:20
		Project Number:	4260155-001
		Purchase Order:	4260155-001
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	Coopers Cove Rd, Hardy VA		

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Semivolatile Organic Compounds by GCMS

Preparation Method: SW3510C/EPA600-MS

24A1289-01	1070 mL / 1.00 mL	SW8270E	BHA0793	SHA0809	AK30271
24A1289-02	1070 mL / 1.00 mL	SW8270E	BHA0793	SHA0809	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Volatile Organic Compounds by GCMS

Preparation Method: SW5030B-MS

24A1289-01	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
24A1289-02	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C/EPA600-MS	
BHA0793-BLK1	1000 mL / 1.00 mL	SW8270E	BHA0793	SHA0809	AK30271
BHA0793-BS1	1000 mL / 1.00 mL	SW8270E	BHA0793	SHA0809	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B-MS	
BHA0755-BLK1	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
BHA0755-BLK2	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
BHA0755-BS1	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
BHA0755-BS2	5.00 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
BHA0755-DUP1	0.250 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322
BHA0755-MS1	0.250 mL / 5.00 mL	SW8260D	BHA0755	SHA0696	AL30322



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Blank (BHA0755-BLK1)

Prepared & Analyzed: 01/23/2024

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Blank (BHA0755-BLK1)

Prepared & Analyzed: 01/23/2024

Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							
tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 26, 2024 16:20
 8382 Terminal Rd, Bay B Project Number: 4260155-001
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Blank (BHA0755-BLK1)

Prepared & Analyzed: 01/23/2024

trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							

Surr: 1,2-Dichloroethane-d4 (Surr)	50.7		ug/L	50.0		101	70-120			
Surr: 4-Bromofluorobenzene (Surr)	52.0		ug/L	50.0		104	75-120			
Surr: Dibromofluoromethane (Surr)	48.7		ug/L	50.0		97.3	70-130			
Surr: Toluene-d8 (Surr)	50.0		ug/L	50.0		99.9	70-130			

LCS (BHA0755-BS1)

Prepared & Analyzed: 01/23/2024

1,1,1,2-Tetrachloroethane	59.0 ug/L	0.4	ug/L	50.0	ug/L	118	80-130			
1,1,1-Trichloroethane	60.0 ug/L	1	ug/L	50.0	ug/L	120	65-130			
1,1,2,2-Tetrachloroethane	55.5 ug/L	0.4	ug/L	50.0	ug/L	111	65-130			
1,1,2-Trichloroethane	54.8 ug/L	1	ug/L	50.0	ug/L	110	75-125			
1,1-Dichloroethane	56.0 ug/L	1	ug/L	50.0	ug/L	112	70-135			
1,1-Dichloroethylene	60.3 ug/L	1	ug/L	50.0	ug/L	121	70-130			
1,1-Dichloropropene	59.8 ug/L	1	ug/L	50.0	ug/L	120	75-135			
1,2,3-Trichlorobenzene	57.2 ug/L	1	ug/L	50.0	ug/L	114	55-140			
1,2,3-Trichloropropane	53.7 ug/L	1	ug/L	50.0	ug/L	107	75-125			
1,2,4-Trichlorobenzene	58.8 ug/L	1	ug/L	50.0	ug/L	118	65-135			
1,2,4-Trimethylbenzene	61.9 ug/L	1	ug/L	50.0	ug/L	124	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	52.1 ug/L	1	ug/L	50.0	ug/L	104	50-130			
1,2-Dibromoethane (EDB)	58.1 ug/L	1	ug/L	50.0	ug/L	116	80-120			
1,2-Dichlorobenzene	59.2 ug/L	0.5	ug/L	50.0	ug/L	118	70-120			
1,2-Dichloroethane	47.0 ug/L	1	ug/L	50.0	ug/L	94.0	70-130			
1,2-Dichloropropane	53.8 ug/L	0.5	ug/L	50.0	ug/L	108	75-125			
1,3,5-Trimethylbenzene	62.2 ug/L	1	ug/L	50.0	ug/L	124	75-125			
1,3-Dichlorobenzene	60.8 ug/L	1	ug/L	50.0	ug/L	122	75-125			
1,3-Dichloropropane	53.0 ug/L	1	ug/L	50.0	ug/L	106	75-125			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

LCS (BHA0755-BS1)

Prepared & Analyzed: 01/23/2024

1,4-Dichlorobenzene	58.3 ug/L	1	ug/L	50.0	ug/L	117	75-125			
2,2-Dichloropropane	62.6 ug/L	1	ug/L	50.0	ug/L	125	70-135			
2-Butanone (MEK)	43.1 ug/L	10	ug/L	50.0	ug/L	86.2	30-150			
2-Chlorotoluene	60.0 ug/L	1	ug/L	50.0	ug/L	120	75-125			
2-Hexanone (MBK)	47.4 ug/L	5	ug/L	50.0	ug/L	94.7	55-130			
4-Chlorotoluene	60.5 ug/L	1	ug/L	50.0	ug/L	121	75-130			
4-Isopropyltoluene	64.4 ug/L	1	ug/L	50.0	ug/L	129	75-130			
4-Methyl-2-pentanone (MIBK)	44.6 ug/L	5	ug/L	50.0	ug/L	89.3	60-135			
Acetone	46.2 ug/L	10	ug/L	50.0	ug/L	92.3	40-140			
Benzene	56.8 ug/L	1	ug/L	50.0	ug/L	114	80-120			
Bromobenzene	57.3 ug/L	1	ug/L	50.0	ug/L	115	75-125			
Bromochloromethane	52.5 ug/L	1	ug/L	50.0	ug/L	105	65-130			
Bromodichloromethane	56.3 ug/L	0.5	ug/L	50.0	ug/L	113	75-120			
Bromoform	58.2 ug/L	1	ug/L	50.0	ug/L	116	70-130			
Bromomethane	59.4 ug/L	1	ug/L	50.0	ug/L	119	30-145			
Carbon disulfide	56.0 ug/L	10	ug/L	50.0	ug/L	112	35-160			
Carbon tetrachloride	60.4 ug/L	1	ug/L	50.0	ug/L	121	65-140			
Chlorobenzene	60.3 ug/L	1	ug/L	50.0	ug/L	121	80-120			L
Chloroethane	61.2 ug/L	1	ug/L	50.0	ug/L	122	60-135			
Chloroform	53.0 ug/L	0.5	ug/L	50.0	ug/L	106	65-135			
Chloromethane	66.0 ug/L	1	ug/L	50.0	ug/L	132	40-125			L
cis-1,2-Dichloroethylene	56.1 ug/L	1	ug/L	50.0	ug/L	112	70-125			
cis-1,3-Dichloropropene	54.9 ug/L	1	ug/L	50.0	ug/L	110	70-130			
Dibromochloromethane	55.7 ug/L	0.5	ug/L	50.0	ug/L	111	60-135			
Dibromomethane	53.0 ug/L	1	ug/L	50.0	ug/L	106	75-125			
Dichlorodifluoromethane	77.0 ug/L	1	ug/L	50.0	ug/L	154	30-155			
Ethylbenzene	62.1 ug/L	1	ug/L	50.0	ug/L	124	75-125			
Hexachlorobutadiene	60.4 ug/L	0.8	ug/L	50.0	ug/L	121	50-140			
Isopropylbenzene	57.8 ug/L	1	ug/L	50.0	ug/L	116	75-125			
m+p-Xylenes	120 ug/L	2	ug/L	100	ug/L	120	75-130			
Methylene chloride	50.2 ug/L	4	ug/L	50.0	ug/L	100	55-140			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

LCS (BHA0755-BS1)

Prepared & Analyzed: 01/23/2024

Methyl-t-butyl ether (MTBE)	52.8 ug/L	1	ug/L	50.0	ug/L	106	65-125			
Naphthalene	57.3 ug/L	1	ug/L	50.0	ug/L	115	55-140			
n-Butylbenzene	65.3 ug/L	1	ug/L	50.0	ug/L	131	70-135			
n-Propylbenzene	62.9 ug/L	1	ug/L	50.0	ug/L	126	70-130			
o-Xylene	60.3 ug/L	1	ug/L	50.0	ug/L	121	80-120			L
sec-Butylbenzene	66.0 ug/L	1	ug/L	50.0	ug/L	132	70-125			L
Styrene	58.8 ug/L	1	ug/L	50.0	ug/L	118	65-135			
tert-Butylbenzene	63.2 ug/L	1	ug/L	50.0	ug/L	126	70-130			
Tetrachloroethylene (PCE)	66.6 ug/L	1	ug/L	50.0	ug/L	133	45-150			
Toluene	56.6 ug/L	1	ug/L	50.0	ug/L	113	75-120			
trans-1,2-Dichloroethylene	58.5 ug/L	1	ug/L	50.0	ug/L	117	60-140			
trans-1,3-Dichloropropene	57.2 ug/L	1	ug/L	50.0	ug/L	114	55-140			
Trichloroethylene	59.2 ug/L	1	ug/L	50.0	ug/L	118	70-125			
Trichlorofluoromethane	64.3 ug/L	1	ug/L	50.0	ug/L	129	60-145			
Vinyl chloride	65.4 ug/L	0.5	ug/L	50.0	ug/L	131	50-145			

Surr: 1,2-Dichloroethane-d4 (Surr)	51.0		ug/L	50.0	ug/L	102	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.9		ug/L	50.0	ug/L	97.9	75-120			
Surr: Dibromofluoromethane (Surr)	50.1		ug/L	50.0	ug/L	100	70-130			
Surr: Toluene-d8 (Surr)	48.8		ug/L	50.0	ug/L	97.6	70-130			

Duplicate (BHA0755-DUP1)

Source: 24A1224-01

Prepared & Analyzed: 01/23/2024

1,1,1,2-Tetrachloroethane	<8.00 ug/L	8.00	ug/L	<8.00 ug/L				NA	30	
1,1,1-Trichloroethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,1,2,2-Tetrachloroethane	<8.00 ug/L	8.00	ug/L	<8.00 ug/L				NA	30	
1,1,2-Trichloroethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,1-Dichloroethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,1-Dichloroethylene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,1-Dichloropropene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2,3-Trichlorobenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2,3-Trichloropropane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2,4-Trichlorobenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2,4-Trimethylbenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Duplicate (BHA0755-DUP1)	Source: 24A1224-01			Prepared & Analyzed: 01/23/2024						
1,2-Dibromo-3-chloropropane (DBCP)	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2-Dibromoethane (EDB)	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
1,2-Dichloroethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,2-Dichloropropane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
1,3,5-Trimethylbenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,3-Dichlorobenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,3-Dichloropropane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,4-Dichlorobenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
1,4-Dioxane	<1600 ug/L	1600	ug/L	<1600 ug/L				NA	30	
2,2-Dichloropropane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
2-Butanone (MEK)	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
2-Chloroethyl vinyl ether	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
2-Chlorotoluene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
2-Hexanone (MBK)	<100 ug/L	100	ug/L	<100 ug/L				NA	30	
4-Chlorotoluene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
4-Isopropyltoluene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
4-Methyl-2-pentanone (MIBK)	<100 ug/L	100	ug/L	<100 ug/L				NA	30	
Acetone	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Acetonitrile	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Acrolein	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Acrylonitrile	<100 ug/L	100	ug/L	<100 ug/L				NA	30	
Allyl chloride	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Benzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Bromobenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Bromochloromethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Bromodichloromethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Bromoform	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Bromomethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Carbon disulfide	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Carbon tetrachloride	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 26, 2024 16:20
 8382 Terminal Rd, Bay B Project Number: 4260155-001
 Lorton VA, 22079 Purchase Order: 4260155-001
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Duplicate (BHA0755-DUP1)

Source: 24A1224-01

Prepared & Analyzed: 01/23/2024

Chlorobenzene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Chloroethane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Chloroform	<10.0 ug/L	10.0	ug/L		<10.0 ug/L			NA	30	
Chloromethane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Chloroprene	<100 ug/L	100	ug/L		<100 ug/L			NA	30	
cis-1,2-Dichloroethylene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
cis-1,3-Dichloropropene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Cyclohexane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Dibromochloromethane	<10.0 ug/L	10.0	ug/L		<10.0 ug/L			NA	30	
Dibromomethane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Dichlorodifluoromethane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Di-isopropyl ether (DIPE)	<100 ug/L	100	ug/L		<100 ug/L			NA	30	
Ethanol	<1600 ug/L	1600	ug/L		<1600 ug/L			NA	30	
Ethyl methacrylate	<100 ug/L	100	ug/L		<100 ug/L			NA	30	
Ethylbenzene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Ethyl-t-butyl ether (ETBE)	<500 ug/L	500	ug/L		<500 ug/L			NA	30	
Hexachlorobutadiene	<16.0 ug/L	16.0	ug/L		<16.0 ug/L			NA	30	
Iodomethane	<200 ug/L	200	ug/L		<200 ug/L			NA	30	
Isopropylbenzene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
m+p-Xylenes	<40.0 ug/L	40.0	ug/L		<40.0 ug/L			NA	30	
Methacrylonitrile	<30.0 ug/L	30.0	ug/L		<30.0 ug/L			NA	30	
Methyl acetate	87.2 ug/L	80.0	ug/L		80.2 ug/L			8.36	30	
Methyl cyclohexane	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Methyl methacrylate	<40.0 ug/L	40.0	ug/L		<40.0 ug/L			NA	30	
Methylene chloride	<80.0 ug/L	80.0	ug/L		<80.0 ug/L			NA	30	
Methyl-t-butyl ether (MTBE)	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Naphthalene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
n-Butylbenzene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
n-Propylbenzene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
o-Xylene	<20.0 ug/L	20.0	ug/L		<20.0 ug/L			NA	30	
Pentachloroethane	<200 ug/L	200	ug/L		<200 ug/L			NA	30	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Duplicate (BHA0755-DUP1)

Source: 24A1224-01

Prepared & Analyzed: 01/23/2024

Propionitrile	<800 ug/L	800	ug/L	<800 ug/L				NA	30	
sec-Butylbenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Styrene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
tert-Butylbenzene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Tetrachloroethylene (PCE)	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Toluene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
trans-1,2-Dichloroethylene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
trans-1,3-Dichloropropene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
trans-1,4-Dichloro-2-butene	<80.0 ug/L	80.0	ug/L	<80.0 ug/L				NA	30	
Trichloroethylene	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Trichlorofluoromethane	<20.0 ug/L	20.0	ug/L	<20.0 ug/L				NA	30	
Vinyl acetate	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Vinyl chloride	<10.0 ug/L	10.0	ug/L	<10.0 ug/L				NA	30	
Xylenes, Total	<60.0 ug/L	60.0	ug/L	<60.0 ug/L				NA	30	
Tetrahydrofuran	<200 ug/L	200	ug/L	<200 ug/L				NA	30	
Diethyl ether	<100 ug/L	100	ug/L	<100 ug/L				NA	30	

Surr: 1,2-Dichloroethane-d4 (Surr)

51.0

ug/L

50.0

ug/L

102

70-120

Surr: 4-Bromofluorobenzene (Surr)

48.7

ug/L

50.0

ug/L

97.5

75-120

Surr: Dibromofluoromethane (Surr)

49.8

ug/L

50.0

ug/L

99.5

70-130

Surr: Toluene-d8 (Surr)

50.9

ug/L

50.0

ug/L

102

70-130

Matrix Spike (BHA0755-MS1)

Source: 24A1132-01

Prepared & Analyzed: 01/23/2024

1,1,1,2-Tetrachloroethane	57.6 ug/L	0.4	ug/L	50.0	<0.4 ug/L	115	80-130			
1,1,1-Trichloroethane	59.2 ug/L	1	ug/L	50.0	<1 ug/L	118	65-130			
1,1,2,2-Tetrachloroethane	52.2 ug/L	0.4	ug/L	50.0	<0.4 ug/L	104	65-130			
1,1,2-Trichloroethane	55.4 ug/L	1	ug/L	50.0	<1 ug/L	111	75-125			
1,1-Dichloroethane	55.4 ug/L	1	ug/L	50.0	<1 ug/L	111	70-135			
1,1-Dichloroethylene	60.1 ug/L	1	ug/L	50.0	<1 ug/L	120	50-145			
1,1-Dichloropropene	59.0 ug/L	1	ug/L	50.0	<1 ug/L	118	75-135			
1,2,3-Trichlorobenzene	56.5 ug/L	1	ug/L	50.0	<1 ug/L	113	55-140			
1,2,3-Trichloropropane	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
1,2,4-Trichlorobenzene	58.5 ug/L	1	ug/L	50.0	<1 ug/L	117	65-135			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Matrix Spike (BHA0755-MS1)

Source: 24A1132-01

Prepared & Analyzed: 01/23/2024

1,2,4-Trimethylbenzene	61.2 ug/L	1	ug/L	50.0	<1 ug/L	122	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.7	50-130			
1,2-Dibromoethane (EDB)	56.8 ug/L	1	ug/L	50.0	<1 ug/L	114	80-120			
1,2-Dichlorobenzene	59.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	119	70-120			
1,2-Dichloroethane	45.9 ug/L	1	ug/L	50.0	<1 ug/L	91.9	70-130			
1,2-Dichloropropane	54.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	109	75-125			
1,3,5-Trimethylbenzene	61.8 ug/L	1	ug/L	50.0	<1 ug/L	124	75-124			
1,3-Dichlorobenzene	59.6 ug/L	1	ug/L	50.0	<1 ug/L	119	75-125			
1,3-Dichloropropane	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
1,4-Dichlorobenzene	57.3 ug/L	1	ug/L	50.0	<1 ug/L	115	75-125			
2,2-Dichloropropane	62.3 ug/L	1	ug/L	50.0	<1 ug/L	125	70-135			
2-Butanone (MEK)	43.1 ug/L	10	ug/L	50.0	<10 ug/L	81.6	30-150			
2-Chlorotoluene	59.8 ug/L	1	ug/L	50.0	<1 ug/L	120	75-125			
2-Hexanone (MBK)	45.1 ug/L	5	ug/L	50.0	<5 ug/L	90.2	55-130			
4-Chlorotoluene	60.6 ug/L	1	ug/L	50.0	<1 ug/L	121	75-130			
4-Isopropyltoluene	63.8 ug/L	1	ug/L	50.0	<1 ug/L	128	75-130			
4-Methyl-2-pentanone (MIBK)	43.9 ug/L	5	ug/L	50.0	<5 ug/L	87.8	60-135			
Acetone	43.1 ug/L	10	ug/L	50.0	<10 ug/L	80.9	40-140			
Benzene	57.6 ug/L	1	ug/L	50.0	<1 ug/L	115	80-120			
Bromobenzene	56.1 ug/L	1	ug/L	50.0	<1 ug/L	112	75-125			
Bromochloromethane	53.0 ug/L	1	ug/L	50.0	<1 ug/L	106	65-130			
Bromodichloromethane	57.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	114	75-136			
Bromoform	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	70-130			
Bromomethane	60.7 ug/L	1	ug/L	50.0	<1 ug/L	121	30-145			
Carbon disulfide	63.6 ug/L	10	ug/L	50.0	<10 ug/L	127	35-160			
Carbon tetrachloride	61.4 ug/L	1	ug/L	50.0	<1 ug/L	123	65-140			
Chlorobenzene	59.3 ug/L	1	ug/L	50.0	<1 ug/L	119	80-120			
Chloroethane	61.7 ug/L	1	ug/L	50.0	<1 ug/L	123	60-135			
Chloroform	51.7 ug/L	0.5	ug/L	50.0	<0.5 ug/L	103	65-135			
Chloromethane	66.2 ug/L	1	ug/L	50.0	<1 ug/L	132	40-125			
cis-1,2-Dichloroethylene	56.4 ug/L	1	ug/L	50.0	<1 ug/L	113	70-125			M



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0755 - SW5030B-MS

Matrix Spike (BHA0755-MS1)

Source: 24A1132-01

Prepared & Analyzed: 01/23/2024

cis-1,3-Dichloropropene	55.6 ug/L	1	ug/L	50.0	<1 ug/L	111	47-136			
Dibromochloromethane	55.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	111	60-135			
Dibromomethane	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	75-125			
Dichlorodifluoromethane	77.6 ug/L	1	ug/L	50.0	<1 ug/L	155	30-155			M
Ethylbenzene	61.2 ug/L	1	ug/L	50.0	<1 ug/L	122	75-125			
Hexachlorobutadiene	60.2 ug/L	0.8	ug/L	50.0	<0.8 ug/L	120	50-140			
Isopropylbenzene	56.1 ug/L	1	ug/L	50.0	<1 ug/L	112	75-125			
m+p-Xylenes	117 ug/L	2	ug/L	100	<2 ug/L	117	75-130			
Methylene chloride	49.8 ug/L	4	ug/L	50.0	<4 ug/L	99.6	55-140			
Methyl-t-butyl ether (MTBE)	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	65-125			
Naphthalene	54.5 ug/L	1	ug/L	50.0	<1 ug/L	109	55-140			
n-Butylbenzene	65.7 ug/L	1	ug/L	50.0	<1 ug/L	131	70-135			
n-Propylbenzene	62.5 ug/L	1	ug/L	50.0	<1 ug/L	125	70-130			
o-Xylene	59.1 ug/L	1	ug/L	50.0	<1 ug/L	118	80-120			
sec-Butylbenzene	65.9 ug/L	1	ug/L	50.0	<1 ug/L	132	70-125			M
Styrene	58.0 ug/L	1	ug/L	50.0	<1 ug/L	116	65-135			
tert-Butylbenzene	62.0 ug/L	1	ug/L	50.0	<1 ug/L	124	70-130			
Tetrachloroethylene (PCE)	65.4 ug/L	1	ug/L	50.0	<1 ug/L	131	51-231			
Toluene	56.8 ug/L	1	ug/L	50.0	<1 ug/L	114	75-120			
trans-1,2-Dichloroethylene	58.9 ug/L	1	ug/L	50.0	<1 ug/L	118	60-140			
trans-1,3-Dichloropropene	56.6 ug/L	1	ug/L	50.0	<1 ug/L	113	55-140			
Trichloroethylene	61.2 ug/L	1	ug/L	50.0	<1 ug/L	122	70-125			
Trichlorofluoromethane	64.1 ug/L	1	ug/L	50.0	<1 ug/L	128	60-145			
Vinyl chloride	65.3 ug/L	0.5	ug/L	50.0	<0.5 ug/L	131	50-145			
Surr: 1,2-Dichloroethane-d4 (Surr)	51.7		ug/L	50.0	ug/L	103	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.7		ug/L	50.0	ug/L	95.5	75-120			
Surr: Dibromofluoromethane (Surr)	50.6		ug/L	50.0	ug/L	101	70-130			
Surr: Toluene-d8 (Surr)	50.0		ug/L	50.0	ug/L	99.9	70-130			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

Blank (BHA0793-BLK1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

Blank (BHA0793-BLK1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

Blank (BHA0793-BLK1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
Surr: 2,4,6-Tribromophenol (Surr)	82.0		ug/L	100		82.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	36.6		ug/L	50.0		73.3	9-117			



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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

Blank (BHA0793-BLK1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

Surr: 2-Fluorophenol (Surr)	40.5	ug/L	100	40.5	5-60
Surr: Nitrobenzene-d5 (Surr)	37.8	ug/L	50.0	75.6	5-151
Surr: Phenol-d5 (Surr)	25.8	ug/L	100	25.8	5-60
Surr: p-Terphenyl-d14 (Surr)	39.5	ug/L	50.0	79.0	5-141

LCS (BHA0793-BS1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

1,2,4-Trichlorobenzene	40.4 ug/L	10.0	ug/L	50.0	ug/L	80.9	57-130
1,2-Dichlorobenzene	32.7 ug/L	10.0	ug/L	50.0	ug/L	65.5	22-115
1,3-Dichlorobenzene	30.2 ug/L	10.0	ug/L	50.0	ug/L	60.5	22-112
1,4-Dichlorobenzene	36.0 ug/L	10.0	ug/L	50.0	ug/L	72.1	13-112
2,4,6-Trichlorophenol	50.3 ug/L	10.0	ug/L	50.0	ug/L	101	52-129
2,4-Dichlorophenol	41.5 ug/L	10.0	ug/L	50.0	ug/L	83.0	53-122
2,4-Dimethylphenol	33.5 ug/L	5.00	ug/L	50.0	ug/L	67.0	42-120
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	70.1	48-127
2,4-Dinitrotoluene	40.3 ug/L	10.0	ug/L	50.0	ug/L	80.6	10-173
2,6-Dinitrotoluene	33.5 ug/L	10.0	ug/L	50.0	ug/L	67.1	68-137
2-Chloronaphthalene	38.6 ug/L	10.0	ug/L	50.0	ug/L	77.3	65-120
2-Chlorophenol	31.6 ug/L	10.0	ug/L	50.0	ug/L	63.1	36-120
2-Nitrophenol	34.4 ug/L	10.0	ug/L	50.0	ug/L	68.7	45-167
3,3'-Dichlorobenzidine	43.6 ug/L	10.0	ug/L	50.0	ug/L	87.2	10-213
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	74.7	53-130
4-Bromophenyl phenyl ether	39.3 ug/L	10.0	ug/L	50.0	ug/L	78.7	65-120
4-Chlorophenyl phenyl ether	41.1 ug/L	10.0	ug/L	50.0	ug/L	82.2	38-145
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	26.0	13-129
Acenaphthene	37.9 ug/L	10.0	ug/L	50.0	ug/L	75.8	60-132
Acenaphthylene	40.5 ug/L	10.0	ug/L	50.0	ug/L	81.1	54-126
Acetophenone	35.8 ug/L	20.0	ug/L	50.0	ug/L	71.7	0-200
Anthracene	31.3 ug/L	10.0	ug/L	50.0	ug/L	62.7	43-120
Benzo (a) anthracene	39.0 ug/L	10.0	ug/L	50.0	ug/L	78.0	42-133
Benzo (a) pyrene	44.6 ug/L	10.0	ug/L	50.0	ug/L	89.3	32-148
Benzo (b) fluoranthene	48.9 ug/L	10.0	ug/L	50.0	ug/L	97.7	42-140
Benzo (g,h,i) perylene	51.9 ug/L	10.0	ug/L	50.0	ug/L	104	10-195



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: Coopers Cove Rd, Hardy VA

Date Issued: January 26, 2024 16:20
 Project Number: 4260155-001
 Purchase Order: 4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

LCS (BHA0793-BS1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

Benzo (k) fluoranthene	33.4 ug/L	10.0	ug/L	50.0	ug/L	66.8	25-146			
bis (2-Chloroethoxy) methane	33.0 ug/L	10.0	ug/L	50.0	ug/L	65.9	49-165			
bis (2-Chloroethyl) ether	30.5 ug/L	10.0	ug/L	50.0	ug/L	61.0	43-126			
2,2'-Oxybis (1-chloropropane)	30.6 ug/L	10.0	ug/L	50.0	ug/L	61.1	63-139			L
bis (2-Ethylhexyl) phthalate	29.1 ug/L	10.0	ug/L	50.0	ug/L	58.2	29-137			
Butyl benzyl phthalate	34.4 ug/L	10.0	ug/L	50.0	ug/L	68.7	10-140			
Chrysene	32.4 ug/L	10.0	ug/L	50.0	ug/L	64.9	44-140			
Dibenz (a,h) anthracene	51.7 ug/L	10.0	ug/L	50.0	ug/L	103	10-200			
Diethyl phthalate	44.0 ug/L	10.0	ug/L	50.0	ug/L	88.0	10-120			
Dimethyl phthalate	36.0 ug/L	10.0	ug/L	50.0	ug/L	71.9	10-120			
Di-n-butyl phthalate	34.8 ug/L	10.0	ug/L	50.0	ug/L	69.7	10-120			
Di-n-octyl phthalate	37.2 ug/L	10.0	ug/L	50.0	ug/L	74.5	19-132			
Fluoranthene	38.4 ug/L	10.0	ug/L	50.0	ug/L	76.9	43-121			
Fluorene	44.0 ug/L	10.0	ug/L	50.0	ug/L	88.0	70-120			
Hexachlorobenzene	37.5 ug/L	1.00	ug/L	50.0	ug/L	75.1	10-142			
Hexachlorobutadiene	49.7 ug/L	10.0	ug/L	50.0	ug/L	99.3	38-120			
Hexachlorocyclopentadiene	19.3 ug/L	10.0	ug/L	50.0	ug/L	38.6	10-76			
Hexachloroethane	36.6 ug/L	10.0	ug/L	50.0	ug/L	73.3	55-120			
Indeno (1,2,3-cd) pyrene	54.0 ug/L	10.0	ug/L	50.0	ug/L	108	10-151			
Isophorone	27.4 ug/L	10.0	ug/L	50.0	ug/L	54.7	47-180			
Naphthalene	40.3 ug/L	5.00	ug/L	50.0	ug/L	80.7	36-120			
Nitrobenzene	39.7 ug/L	10.0	ug/L	50.0	ug/L	79.3	54-158			
n-Nitrosodimethylamine	16.6 ug/L	10.0	ug/L	50.0	ug/L	33.3	10-85			
n-Nitrosodi-n-propylamine	37.6 ug/L	10.0	ug/L	50.0	ug/L	75.2	14-198			
n-Nitrosodiphenylamine	33.7 ug/L	10.0	ug/L	50.0	ug/L	67.5	12-97			
p-Chloro-m-cresol	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.3	10-142			
Pentachlorophenol	30.1 ug/L	20.0	ug/L	50.0	ug/L	60.1	38-152			
Phenanthrene	43.3 ug/L	10.0	ug/L	50.0	ug/L	86.6	65-120			
Phenol	14.0 ug/L	10.0	ug/L	50.5	ug/L	27.8	17-120			
Pyrene	29.9 ug/L	10.0	ug/L	50.0	ug/L	59.8	70-120			L
Pyridine	24.0 ug/L	10.0	ug/L	50.0	ug/L	48.0	10-103			



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA0793 - SW3510C/EPA600-MS

LCS (BHA0793-BS1)

Prepared: 01/24/2024 Analyzed: 01/25/2024

Surr: 2,4,6-Tribromophenol (Surr)	94.0		ug/L	100	ug/L	94.0	5-136			
Surr: 2-Fluorobiphenyl (Surr)	41.2		ug/L	50.0	ug/L	82.3	9-117			
Surr: 2-Fluorophenol (Surr)	42.3		ug/L	100	ug/L	42.3	5-60			
Surr: Nitrobenzene-d5 (Surr)	39.9		ug/L	50.0	ug/L	79.9	5-151			
Surr: Phenol-d5 (Surr)	28.7		ug/L	100	ug/L	28.7	5-60			
Surr: p-Terphenyl-d14 (Surr)	31.2		ug/L	50.0	ug/L	62.3	5-141			

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Final Report

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Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP



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Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2024
NCDEQ	North Carolina DEQ	495	12/31/2024
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Summary of Data Qualifiers

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 26, 2024 16:20
Submitted To:	Shanna Hryvniak	Project Number:	4260155-001
Client Site I.D.:	Coopers Cove Rd, Hardy VA	Purchase Order:	4260155-001

Sample Conditions Checklist

Samples Received at:	1.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

David Dudley approved analysis on a 3-day with 50% surcharge. HEG 1/23/24 1129

Shanna Hryvniak notified via email for the samples received without trip blanks. HEG 1/23/24 1310



Appendix S

Laboratory Analytical Report (1/25/2024)



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Certificate of Analysis

Final Report

Laboratory Order ID 24A1569

Client Name: Total Environmental Concepts-Lorton
8382 Terminal Rd, Bay B

Lorton, VA 22079

Submitted To: Shanna Hryvniak

Date Received: January 26, 2024 13:57

Date Issued: January 31, 2024 17:02

Project Number: [none]

Purchase Order:

Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Enclosed are the results of analyses for samples received by the laboratory on 01/26/2024 13:57. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads 'Ted Soyars'.

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. D. Horn Laboratory Sample ID: 24A1569-01
 Grab Date/Time: 01/25/2024 09:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1,1-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1,2,2-Tetrachloroethane	01	SW8260D	<0.40 ug/L		0.40	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1,2-Trichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1-Dichloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,1-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2,3-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2,3-Trichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2,4-Trichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2,4-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2-Dibromo-3-chloropropane (DBCP)	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2-Dibromoethane (EDB)	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2-Dichlorobenzene	01	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2-Dichloroethane	01	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,2-Dichloropropane	01	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
1,3,5-Trimethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,3-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,3-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
1,4-Dichlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
2,2-Dichloropropane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
2-Butanone (MEK)	01	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:55	01/29/24 12:55	RJB
2-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
2-Hexanone (MBK)	01	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:55	01/29/24 12:55	RJB
4-Chlorotoluene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	D. Horn	Laboratory Sample ID:	24A1569-01
Grab Date/Time:	01/25/2024 09:45		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
4-Methyl-2-pentanone (MIBK)	01	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Acetone	01	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:55	01/29/24 12:55	RJB
Benzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Bromobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Bromochloromethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Bromodichloromethane	01	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
Bromoform	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Bromomethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Carbon disulfide	01	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:55	01/29/24 12:55	RJB
Carbon tetrachloride	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Chlorobenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Chloroethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Chloroform	01	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
Chloromethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
cis-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
cis-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Dibromochloromethane	01	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
Dibromomethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Dichlorodifluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Di-isopropyl ether (DIPE)	01	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Ethylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Hexachlorobutadiene	01	SW8260D	<0.80 ug/L		0.80	1	01/29/24 12:55	01/29/24 12:55	RJB
Iodomethane	01	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:55	01/29/24 12:55	RJB
Isopropylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
m+p-Xylenes	01	SW8260D	<2.00 ug/L		2.00	1	01/29/24 12:55	01/29/24 12:55	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	D. Horn	Laboratory Sample ID:	24A1569-01
Grab Date/Time:	01/25/2024 09:45	Field pH:	
Field Residual Cl:			

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	01	SW8260D	<4.00 ug/L		4.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Methyl-t-butyl ether (MTBE)	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Naphthalene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
n-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
n-Propylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
o-Xylene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
sec-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Styrene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
tert-Butylbenzene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Tetrachloroethylene (PCE)	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Toluene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
trans-1,2-Dichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
trans-1,3-Dichloropropene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Trichloroethylene	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Trichlorofluoromethane	01	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:55	01/29/24 12:55	RJB
Vinyl acetate	01	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:55	01/29/24 12:55	RJB
Vinyl chloride	01	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:55	01/29/24 12:55	RJB
Xylenes, Total	01	SW8260D	<3.00 ug/L		3.00	1	01/29/24 12:55	01/29/24 12:55	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	01	SW8260D	90.9 %		70-120		01/29/24 12:55	01/29/24 12:55	RJB
Surr: 4-Bromofluorobenzene (Surr)	01	SW8260D	102 %		75-120		01/29/24 12:55	01/29/24 12:55	RJB
Surr: Dibromofluoromethane (Surr)	01	SW8260D	88.8 %		70-130		01/29/24 12:55	01/29/24 12:55	RJB
Surr: Toluene-d8 (Surr)	01	SW8260D	100 %		70-130		01/29/24 12:55	01/29/24 12:55	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. D. Horn Laboratory Sample ID: 24A1569-01
 Grab Date/Time: 01/25/2024 09:45
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1,2,4-Trichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1,2-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1,2-Diphenylhydrazine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1,3-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1,3-Dinitrobenzene	01	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 18:36	BMS
1,4-Dichlorobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
1-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,3,4,6-Tetrachlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4,5-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4,6-Trichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4-Dimethylphenol	01	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4-Dinitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,4-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,6-Dichlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,6-Dinitrotoluene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Chloronaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Chlorophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Methylnaphthalene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Naphthylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2-Nitrophenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
3,3'-Dichlorobenzidine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
3-Methylcholanthrene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
3-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	D. Horn	Laboratory Sample ID:	24A1569-01
Grab Date/Time:	01/25/2024 09:45		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Aminobiphenyl	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Bromophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Chloroaniline	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Chlorophenyl phenyl ether	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Nitroaniline	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
4-Nitrophenol	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
7,12-Dimethylbenz (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Acenaphthene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Acenaphthylene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Acetophenone	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Aniline	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzidine	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzo (a) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzo (a) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzo (b) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzo (g,h,i) perylene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzo (k) fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzoic acid	01	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Benzyl alcohol	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
bis (2-Chloroethoxy) methane	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
bis (2-Chloroethyl) ether	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
2,2'-Oxybis (1-chloropropane)	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
bis (2-Ethylhexyl) phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. D. Horn Laboratory Sample ID: 24A1569-01
 Grab Date/Time: 01/25/2024 09:45
 Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Chrysene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Dibenz (a,h) anthracene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Dibenz (a,j) acridine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Dibenzofuran	01	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 18:36	BMS
Diethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Dimethyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Di-n-butyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Di-n-octyl phthalate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Diphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Ethyl methanesulfonate	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Fluoranthene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Fluorene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Hexachlorobenzene	01	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 18:36	BMS
Hexachlorobutadiene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Hexachlorocyclopentadiene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Hexachloroethane	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Indeno (1,2,3-cd) pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Isophorone	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Methyl methanesulfonate	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Naphthalene	01	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 18:36	BMS
Nitrobenzene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
n-Nitrosodimethylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
n-Nitrosodi-n-butylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
n-Nitrosodi-n-propylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	D. Horn	Laboratory Sample ID:	24A1569-01
Grab Date/Time:	01/25/2024 09:45		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
n-Nitrosopiperidine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
o+m+p-Cresols	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
o-Cresol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
p-(Dimethylamino) azobenzene	01	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 18:36	BMS
p-Chloro-m-cresol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Pentachloronitrobenzene (quintozene)	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Pentachlorophenol	01	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Phenacetin	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Phenanthrene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Phenol	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Pronamide	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Pyrene	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Pyridine	01	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 18:36	BMS
Surr: 2,4,6-Tribromophenol (Surr)	01	SW8270E	82.3 %		5-136		01/30/24 09:15	01/30/24 18:36	BMS
Surr: 2-Fluorobiphenyl (Surr)	01	SW8270E	80.6 %		9-117		01/30/24 09:15	01/30/24 18:36	BMS
Surr: 2-Fluorophenol (Surr)	01	SW8270E	42.7 %		5-60		01/30/24 09:15	01/30/24 18:36	BMS
Surr: Nitrobenzene-d5 (Surr)	01	SW8270E	81.9 %		5-151		01/30/24 09:15	01/30/24 18:36	BMS
Surr: Phenol-d5 (Surr)	01	SW8270E	23.9 %		5-60		01/30/24 09:15	01/30/24 18:36	BMS
Surr: p-Terphenyl-d14 (Surr)	01	SW8270E	77.3 %		5-141		01/30/24 09:15	01/30/24 18:36	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Colson	Laboratory Sample ID:	24A1569-02
Grab Date/Time:	01/25/2024 10:25	Field pH:	
Field Residual Cl:			

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1,1-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1,2,2-Tetrachloroethane	02	SW8260D	<0.40 ug/L		0.40	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1,2-Trichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1-Dichloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,1-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2,3-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2,3-Trichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2,4-Trichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2,4-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2-Dibromo-3-chloropropane (DBCP)	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2-Dibromoethane (EDB)	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2-Dichlorobenzene	02	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2-Dichloroethane	02	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,2-Dichloropropane	02	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
1,3,5-Trimethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,3-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,3-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
1,4-Dichlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
2,2-Dichloropropane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
2-Butanone (MEK)	02	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:18	01/29/24 13:18	RJB
2-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
2-Hexanone (MBK)	02	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:18	01/29/24 13:18	RJB
4-Chlorotoluene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Colson Laboratory Sample ID: 24A1569-02
 Grab Date/Time: 01/25/2024 10:25
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
4-Methyl-2-pentanone (MIBK)	02	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Acetone	02	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:18	01/29/24 13:18	RJB
Benzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Bromobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Bromochloromethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Bromodichloromethane	02	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
Bromoform	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Bromomethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Carbon disulfide	02	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:18	01/29/24 13:18	RJB
Carbon tetrachloride	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Chlorobenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Chloroethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Chloroform	02	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
Chloromethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
cis-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
cis-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Dibromochloromethane	02	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
Dibromomethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Dichlorodifluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Di-isopropyl ether (DIPE)	02	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Ethylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Hexachlorobutadiene	02	SW8260D	<0.80 ug/L		0.80	1	01/29/24 13:18	01/29/24 13:18	RJB
Iodomethane	02	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:18	01/29/24 13:18	RJB
Isopropylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
m+p-Xylenes	02	SW8260D	<2.00 ug/L		2.00	1	01/29/24 13:18	01/29/24 13:18	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Colson	Laboratory Sample ID: 24A1569-02
Grab Date/Time: 01/25/2024 10:25	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	02	SW8260D	<4.00 ug/L		4.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Methyl-t-butyl ether (MTBE)	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Naphthalene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
n-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
n-Propylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
o-Xylene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
sec-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Styrene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
tert-Butylbenzene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Tetrachloroethylene (PCE)	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Toluene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
trans-1,2-Dichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
trans-1,3-Dichloropropene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Trichloroethylene	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Trichlorofluoromethane	02	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:18	01/29/24 13:18	RJB
Vinyl acetate	02	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:18	01/29/24 13:18	RJB
Vinyl chloride	02	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:18	01/29/24 13:18	RJB
Xylenes, Total	02	SW8260D	<3.00 ug/L		3.00	1	01/29/24 13:18	01/29/24 13:18	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	02	SW8260D	92.2 %		70-120		01/29/24 13:18	01/29/24 13:18	RJB
Surr: 4-Bromofluorobenzene (Surr)	02	SW8260D	108 %		75-120		01/29/24 13:18	01/29/24 13:18	RJB
Surr: Dibromofluoromethane (Surr)	02	SW8260D	92.2 %		70-130		01/29/24 13:18	01/29/24 13:18	RJB
Surr: Toluene-d8 (Surr)	02	SW8260D	102 %		70-130		01/29/24 13:18	01/29/24 13:18	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Colson Laboratory Sample ID: 24A1569-02

Grab Date/Time: 01/25/2024 10:25

Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1,2,4-Trichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1,2-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1,2-Diphenylhydrazine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1,3-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1,3-Dinitrobenzene	02	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 19:06	BMS
1,4-Dichlorobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
1-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,3,4,6-Tetrachlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4,5-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4,6-Trichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4-Dimethylphenol	02	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4-Dinitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,4-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,6-Dichlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,6-Dinitrotoluene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Chloronaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Chlorophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Methylnaphthalene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Naphthylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2-Nitrophenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
3,3'-Dichlorobenzidine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
3-Methylcholanthrene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
3-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Colson	Laboratory Sample ID:	24A1569-02
Grab Date/Time:	01/25/2024 10:25		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Aminobiphenyl	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Bromophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Chloroaniline	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Chlorophenyl phenyl ether	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Nitroaniline	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
4-Nitrophenol	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
7,12-Dimethylbenz (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Acenaphthene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Acenaphthylene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Acetophenone	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Aniline	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzidine	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzo (a) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzo (a) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzo (b) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzo (g,h,i) perylene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzo (k) fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzoic acid	02	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Benzyl alcohol	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
bis (2-Chloroethoxy) methane	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
bis (2-Chloroethyl) ether	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
2,2'-Oxybis (1-chloropropane)	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
bis (2-Ethylhexyl) phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Colson Laboratory Sample ID: 24A1569-02
 Grab Date/Time: 01/25/2024 10:25
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Chrysene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Dibenz (a,h) anthracene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Dibenz (a,j) acridine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Dibenzofuran	02	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:06	BMS
Diethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Dimethyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Di-n-butyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Di-n-octyl phthalate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Diphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Ethyl methanesulfonate	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Fluoranthene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Fluorene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Hexachlorobenzene	02	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 19:06	BMS
Hexachlorobutadiene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Hexachlorocyclopentadiene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Hexachloroethane	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Indeno (1,2,3-cd) pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Isophorone	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Methyl methanesulfonate	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Naphthalene	02	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:06	BMS
Nitrobenzene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
n-Nitrosodimethylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
n-Nitrosodi-n-butylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
n-Nitrosodi-n-propylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Colson Laboratory Sample ID: 24A1569-02
 Grab Date/Time: 01/25/2024 10:25
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
n-Nitrosopiperidine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
o+m+p-Cresols	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
o-Cresol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
p-(Dimethylamino) azobenzene	02	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 19:06	BMS
p-Chloro-m-cresol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Pentachloronitrobenzene (quintozene)	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Pentachlorophenol	02	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Phenacetin	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Phenanthrene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Phenol	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Pronamide	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Pyrene	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Pyridine	02	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:06	BMS
Surr: 2,4,6-Tribromophenol (Surr)	02	SW8270E	68.0 %		5-136		01/30/24 09:15	01/30/24 19:06	BMS
Surr: 2-Fluorobiphenyl (Surr)	02	SW8270E	70.4 %		9-117		01/30/24 09:15	01/30/24 19:06	BMS
Surr: 2-Fluorophenol (Surr)	02	SW8270E	37.6 %		5-60		01/30/24 09:15	01/30/24 19:06	BMS
Surr: Nitrobenzene-d5 (Surr)	02	SW8270E	67.8 %		5-151		01/30/24 09:15	01/30/24 19:06	BMS
Surr: Phenol-d5 (Surr)	02	SW8270E	21.2 %		5-60		01/30/24 09:15	01/30/24 19:06	BMS
Surr: p-Terphenyl-d14 (Surr)	02	SW8270E	66.0 %		5-141		01/30/24 09:15	01/30/24 19:06	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton	Laboratory Sample ID: 24A1569-03
Grab Date/Time: 01/25/2024 11:00	

Field Residual CI:	Field pH:
--------------------	-----------

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1,1-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1,2,2-Tetrachloroethane	03	SW8260D	<0.40 ug/L		0.40	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1,2-Trichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1-Dichloroethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,1-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2,3-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2,3-Trichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2,4-Trichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2,4-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2-Dibromo-3-chloropropane (DBCP)	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2-Dibromoethane (EDB)	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2-Dichlorobenzene	03	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2-Dichloroethane	03	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,2-Dichloropropane	03	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
1,3,5-Trimethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,3-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,3-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
1,4-Dichlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
2,2-Dichloropropane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
2-Butanone (MEK)	03	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:41	01/29/24 13:41	RJB
2-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
2-Hexanone (MBK)	03	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:41	01/29/24 13:41	RJB
4-Chlorotoluene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton Laboratory Sample ID: 24A1569-03
 Grab Date/Time: 01/25/2024 11:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
4-Methyl-2-pentanone (MIBK)	03	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Acetone	03	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:41	01/29/24 13:41	RJB
Benzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Bromobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Bromochloromethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Bromodichloromethane	03	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
Bromoform	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Bromomethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Carbon disulfide	03	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:41	01/29/24 13:41	RJB
Carbon tetrachloride	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Chlorobenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Chloroethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Chloroform	03	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
Chloromethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
cis-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
cis-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Dibromochloromethane	03	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
Dibromomethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Dichlorodifluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Di-isopropyl ether (DIPE)	03	SW8260D	<5.00 ug/L		5.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Ethylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Hexachlorobutadiene	03	SW8260D	<0.80 ug/L		0.80	1	01/29/24 13:41	01/29/24 13:41	RJB
Iodomethane	03	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:41	01/29/24 13:41	RJB
Isopropylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
m+p-Xylenes	03	SW8260D	<2.00 ug/L		2.00	1	01/29/24 13:41	01/29/24 13:41	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton	Laboratory Sample ID: 24A1569-03
Grab Date/Time: 01/25/2024 11:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	03	SW8260D	<4.00 ug/L		4.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Methyl-t-butyl ether (MTBE)	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Naphthalene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
n-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
n-Propylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
o-Xylene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
sec-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Styrene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
tert-Butylbenzene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Tetrachloroethylene (PCE)	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Toluene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
trans-1,2-Dichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
trans-1,3-Dichloropropene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Trichloroethylene	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Trichlorofluoromethane	03	SW8260D	<1.00 ug/L		1.00	1	01/29/24 13:41	01/29/24 13:41	RJB
Vinyl acetate	03	SW8260D	<10.0 ug/L		10.0	1	01/29/24 13:41	01/29/24 13:41	RJB
Vinyl chloride	03	SW8260D	<0.50 ug/L		0.50	1	01/29/24 13:41	01/29/24 13:41	RJB
Xylenes, Total	03	SW8260D	<3.00 ug/L		3.00	1	01/29/24 13:41	01/29/24 13:41	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	03	SW8260D	92.4 %		70-120		01/29/24 13:41	01/29/24 13:41	RJB
Surr: 4-Bromofluorobenzene (Surr)	03	SW8260D	109 %		75-120		01/29/24 13:41	01/29/24 13:41	RJB
Surr: Dibromofluoromethane (Surr)	03	SW8260D	87.5 %		70-130		01/29/24 13:41	01/29/24 13:41	RJB
Surr: Toluene-d8 (Surr)	03	SW8260D	96.2 %		70-130		01/29/24 13:41	01/29/24 13:41	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton Laboratory Sample ID: 24A1569-03
 Grab Date/Time: 01/25/2024 11:00
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1,2,4-Trichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1,2-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1,2-Diphenylhydrazine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1,3-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1,3-Dinitrobenzene	03	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 19:35	BMS
1,4-Dichlorobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
1-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,3,4,6-Tetrachlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4,5-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4,6-Trichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4-Dimethylphenol	03	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4-Dinitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,4-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,6-Dichlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,6-Dinitrotoluene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Chloronaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Chlorophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Methylnaphthalene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Naphthylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2-Nitrophenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
3,3'-Dichlorobenzidine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
3-Methylcholanthrene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
3-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton	Laboratory Sample ID: 24A1569-03
Grab Date/Time: 01/25/2024 11:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Aminobiphenyl	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Bromophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Chloroaniline	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Chlorophenyl phenyl ether	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Nitroaniline	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
4-Nitrophenol	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
7,12-Dimethylbenz (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Acenaphthene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Acenaphthylene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Acetophenone	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Aniline	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Anthracene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzidine	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzo (a) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzo (a) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzo (b) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzo (g,h,i) perylene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzo (k) fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzoic acid	03	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Benzyl alcohol	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
bis (2-Chloroethoxy) methane	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
bis (2-Chloroethyl) ether	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
2,2'-Oxybis (1-chloropropane)	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
bis (2-Ethylhexyl) phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 31, 2024 17:02
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton	Laboratory Sample ID: 24A1569-03
Grab Date/Time: 01/25/2024 11:00	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Chrysene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Dibenz (a,h) anthracene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Dibenz (a,j) acridine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Dibenzofuran	03	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:35	BMS
Diethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Dimethyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Di-n-butyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Di-n-octyl phthalate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Diphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Ethyl methanesulfonate	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Fluoranthene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Fluorene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Hexachlorobenzene	03	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 19:35	BMS
Hexachlorobutadiene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Hexachlorocyclopentadiene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Hexachloroethane	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Indeno (1,2,3-cd) pyrene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Isophorone	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Methyl methanesulfonate	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Naphthalene	03	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 19:35	BMS
Nitrobenzene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
n-Nitrosodimethylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
n-Nitrosodi-n-butylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
n-Nitrosodi-n-propylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. T. Throckmorton	Laboratory Sample ID: 24A1569-03
Grab Date/Time: 01/25/2024 11:00	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
n-Nitrosopiperidine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
o+m+p-Cresols	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
o-Cresol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
p-(Dimethylamino) azobenzene	03	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 19:35	BMS
p-Chloro-m-cresol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Pentachloronitrobenzene (quintozene)	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Pentachlorophenol	03	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Phenacetin	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Phenanthrene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Phenol	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Pronamide	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Pyrene	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Pyridine	03	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 19:35	BMS
Surr: 2,4,6-Tribromophenol (Surr)	03	SW8270E	26.8 %		5-136		01/30/24 09:15	01/30/24 19:35	BMS
Surr: 2-Fluorobiphenyl (Surr)	03	SW8270E	29.0 %		9-117		01/30/24 09:15	01/30/24 19:35	BMS
Surr: 2-Fluorophenol (Surr)	03	SW8270E	17.2 %		5-60		01/30/24 09:15	01/30/24 19:35	BMS
Surr: Nitrobenzene-d5 (Surr)	03	SW8270E	31.4 %		5-151		01/30/24 09:15	01/30/24 19:35	BMS
Surr: Phenol-d5 (Surr)	03	SW8270E	9.16 %		5-60		01/30/24 09:15	01/30/24 19:35	BMS
Surr: p-Terphenyl-d14 (Surr)	03	SW8270E	39.5 %		5-141		01/30/24 09:15	01/30/24 19:35	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes Laboratory Sample ID: 24A1569-04

Grab Date/Time: 01/25/2024 12:05

Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1,1-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1,2,2-Tetrachloroethane	04	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1,2-Trichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1-Dichloroethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,1-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2,3-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2,3-Trichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2,4-Trichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2,4-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2-Dibromo-3-chloropropane (DBCP)	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2-Dibromoethane (EDB)	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2-Dichlorobenzene	04	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2-Dichloroethane	04	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,2-Dichloropropane	04	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
1,3,5-Trimethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,3-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,3-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
1,4-Dichlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
2,2-Dichloropropane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
2-Butanone (MEK)	04	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:04	01/29/24 14:04	RJB
2-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
2-Hexanone (MBK)	04	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:04	01/29/24 14:04	RJB
4-Chlorotoluene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes Laboratory Sample ID: 24A1569-04
 Grab Date/Time: 01/25/2024 12:05
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
4-Methyl-2-pentanone (MIBK)	04	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Acetone	04	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:04	01/29/24 14:04	RJB
Benzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Bromobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Bromochloromethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Bromodichloromethane	04	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
Bromoform	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Bromomethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Carbon disulfide	04	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:04	01/29/24 14:04	RJB
Carbon tetrachloride	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Chlorobenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Chloroethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Chloroform	04	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
Chloromethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
cis-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
cis-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Dibromochloromethane	04	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
Dibromomethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Dichlorodifluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Di-isopropyl ether (DIPE)	04	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Ethylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Hexachlorobutadiene	04	SW8260D	<0.80 ug/L		0.80	1	01/29/24 14:04	01/29/24 14:04	RJB
Iodomethane	04	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:04	01/29/24 14:04	RJB
Isopropylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
m+p-Xylenes	04	SW8260D	<2.00 ug/L		2.00	1	01/29/24 14:04	01/29/24 14:04	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes	Laboratory Sample ID: 24A1569-04
Grab Date/Time: 01/25/2024 12:05	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	04	SW8260D	<4.00 ug/L		4.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Methyl-t-butyl ether (MTBE)	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Naphthalene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
n-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
n-Propylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
o-Xylene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
sec-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Styrene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
tert-Butylbenzene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Tetrachloroethylene (PCE)	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Toluene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
trans-1,2-Dichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
trans-1,3-Dichloropropene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Trichloroethylene	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Trichlorofluoromethane	04	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:04	01/29/24 14:04	RJB
Vinyl acetate	04	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:04	01/29/24 14:04	RJB
Vinyl chloride	04	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:04	01/29/24 14:04	RJB
Xylenes, Total	04	SW8260D	<3.00 ug/L		3.00	1	01/29/24 14:04	01/29/24 14:04	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	04	SW8260D	93.8 %		70-120		01/29/24 14:04	01/29/24 14:04	RJB
Surr: 4-Bromofluorobenzene (Surr)	04	SW8260D	109 %		75-120		01/29/24 14:04	01/29/24 14:04	RJB
Surr: Dibromofluoromethane (Surr)	04	SW8260D	92.9 %		70-130		01/29/24 14:04	01/29/24 14:04	RJB
Surr: Toluene-d8 (Surr)	04	SW8260D	96.1 %		70-130		01/29/24 14:04	01/29/24 14:04	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes	Laboratory Sample ID: 24A1569-04
Grab Date/Time: 01/25/2024 12:05	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1,2,4-Trichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1,2-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1,2-Diphenylhydrazine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1,3-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1,3-Dinitrobenzene	04	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 20:05	BMS
1,4-Dichlorobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
1-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,3,4,6-Tetrachlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4,5-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4,6-Trichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4-Dimethylphenol	04	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4-Dinitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,4-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,6-Dichlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,6-Dinitrotoluene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Chloronaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Chlorophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Methylnaphthalene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Naphthylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2-Nitrophenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
3,3'-Dichlorobenzidine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
3-Methylcholanthrene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
3-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes	Laboratory Sample ID: 24A1569-04
Grab Date/Time: 01/25/2024 12:05	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Aminobiphenyl	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Bromophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Chloroaniline	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Chlorophenyl phenyl ether	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Nitroaniline	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
4-Nitrophenol	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
7,12-Dimethylbenz (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Acenaphthene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Acenaphthylene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Acetophenone	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Aniline	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Anthracene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzidine	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzo (a) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzo (a) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzo (b) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzo (g,h,i) perylene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzo (k) fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzoic acid	04	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Benzyl alcohol	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
bis (2-Chloroethoxy) methane	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
bis (2-Chloroethyl) ether	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
2,2'-Oxybis (1-chloropropane)	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
bis (2-Ethylhexyl) phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 31, 2024 17:02
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. L. Belderes	Laboratory Sample ID: 24A1569-04
Grab Date/Time:	01/25/2024 12:05
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Chrysene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Dibenz (a,h) anthracene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Dibenz (a,j) acridine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Dibenzofuran	04	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:05	BMS
Diethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Dimethyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Di-n-butyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Di-n-octyl phthalate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Diphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Ethyl methanesulfonate	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Fluoranthene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Fluorene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Hexachlorobenzene	04	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 20:05	BMS
Hexachlorobutadiene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Hexachlorocyclopentadiene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Hexachloroethane	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Indeno (1,2,3-cd) pyrene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Isophorone	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Methyl methanesulfonate	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Naphthalene	04	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:05	BMS
Nitrobenzene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
n-Nitrosodimethylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
n-Nitrosodi-n-butylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
n-Nitrosodi-n-propylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	L. Belderes	Laboratory Sample ID:	24A1569-04
Grab Date/Time:	01/25/2024 12:05		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
n-Nitrosopiperidine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
o+m+p-Cresols	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
o-Cresol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
p-(Dimethylamino) azobenzene	04	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 20:05	BMS
p-Chloro-m-cresol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Pentachloronitrobenzene (quintozene)	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Pentachlorophenol	04	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Phenacetin	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Phenanthrene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Phenol	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Pronamide	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Pyrene	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Pyridine	04	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:05	BMS
Surr: 2,4,6-Tribromophenol (Surr)	04	SW8270E	69.0 %		5-136		01/30/24 09:15	01/30/24 20:05	BMS
Surr: 2-Fluorobiphenyl (Surr)	04	SW8270E	64.1 %		9-117		01/30/24 09:15	01/30/24 20:05	BMS
Surr: 2-Fluorophenol (Surr)	04	SW8270E	31.8 %		5-60		01/30/24 09:15	01/30/24 20:05	BMS
Surr: Nitrobenzene-d5 (Surr)	04	SW8270E	65.4 %		5-151		01/30/24 09:15	01/30/24 20:05	BMS
Surr: Phenol-d5 (Surr)	04	SW8270E	19.3 %		5-60		01/30/24 09:15	01/30/24 20:05	BMS
Surr: p-Terphenyl-d14 (Surr)	04	SW8270E	69.2 %		5-141		01/30/24 09:15	01/30/24 20:05	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Metcalf	Laboratory Sample ID:	24A1569-05
Grab Date/Time:	01/25/2024 14:15	Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1,1-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1,2,2-Tetrachloroethane	05	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1,2-Trichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1-Dichloroethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,1-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2,3-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2,3-Trichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2,4-Trichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2,4-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2-Dibromo-3-chloropropane (DBCP)	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2-Dibromoethane (EDB)	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2-Dichlorobenzene	05	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2-Dichloroethane	05	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,2-Dichloropropane	05	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
1,3,5-Trimethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,3-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,3-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
1,4-Dichlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
2,2-Dichloropropane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
2-Butanone (MEK)	05	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:28	01/29/24 14:28	RJB
2-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
2-Hexanone (MBK)	05	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:28	01/29/24 14:28	RJB
4-Chlorotoluene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Metcalf Laboratory Sample ID: 24A1569-05
 Grab Date/Time: 01/25/2024 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
4-Methyl-2-pentanone (MIBK)	05	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Acetone	05	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:28	01/29/24 14:28	RJB
Benzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Bromobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Bromochloromethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Bromodichloromethane	05	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
Bromoform	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Bromomethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Carbon disulfide	05	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:28	01/29/24 14:28	RJB
Carbon tetrachloride	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Chlorobenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Chloroethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Chloroform	05	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
Chloromethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
cis-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
cis-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Dibromochloromethane	05	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
Dibromomethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Dichlorodifluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Di-isopropyl ether (DIPE)	05	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Ethylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Hexachlorobutadiene	05	SW8260D	<0.80 ug/L		0.80	1	01/29/24 14:28	01/29/24 14:28	RJB
Iodomethane	05	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:28	01/29/24 14:28	RJB
Isopropylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
m+p-Xylenes	05	SW8260D	<2.00 ug/L		2.00	1	01/29/24 14:28	01/29/24 14:28	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Metcalf	Laboratory Sample ID:	24A1569-05
Grab Date/Time:	01/25/2024 14:15		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	05	SW8260D	<4.00 ug/L		4.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Methyl-t-butyl ether (MTBE)	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Naphthalene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
n-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
n-Propylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
o-Xylene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
sec-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Styrene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
tert-Butylbenzene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Tetrachloroethylene (PCE)	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Toluene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
trans-1,2-Dichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
trans-1,3-Dichloropropene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Trichloroethylene	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Trichlorofluoromethane	05	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:28	01/29/24 14:28	RJB
Vinyl acetate	05	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:28	01/29/24 14:28	RJB
Vinyl chloride	05	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:28	01/29/24 14:28	RJB
Xylenes, Total	05	SW8260D	<3.00 ug/L		3.00	1	01/29/24 14:28	01/29/24 14:28	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	05	SW8260D	92.9 %		70-120		01/29/24 14:28	01/29/24 14:28	RJB
Surr: 4-Bromofluorobenzene (Surr)	05	SW8260D	108 %		75-120		01/29/24 14:28	01/29/24 14:28	RJB
Surr: Dibromofluoromethane (Surr)	05	SW8260D	90.1 %		70-130		01/29/24 14:28	01/29/24 14:28	RJB
Surr: Toluene-d8 (Surr)	05	SW8260D	98.1 %		70-130		01/29/24 14:28	01/29/24 14:28	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Metcalf	Laboratory Sample ID:	24A1569-05
Grab Date/Time:	01/25/2024 14:15	Field pH:	
Field Residual Cl:			

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1,2,4-Trichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1,2-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1,2-Diphenylhydrazine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1,3-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1,3-Dinitrobenzene	05	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 20:34	BMS
1,4-Dichlorobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
1-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,3,4,6-Tetrachlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4,5-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4,6-Trichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4-Dimethylphenol	05	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4-Dinitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,4-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,6-Dichlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,6-Dinitrotoluene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Chloronaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Chlorophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Methylnaphthalene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Naphthylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2-Nitrophenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
3,3'-Dichlorobenzidine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
3-Methylcholanthrene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
3-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. G. Metcalf Laboratory Sample ID: 24A1569-05
 Grab Date/Time: 01/25/2024 14:15
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Aminobiphenyl	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Bromophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Chloroaniline	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Chlorophenyl phenyl ether	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Nitroaniline	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
4-Nitrophenol	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
7,12-Dimethylbenz (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Acenaphthene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Acenaphthylene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Acetophenone	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Aniline	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Anthracene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzidine	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzo (a) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzo (a) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzo (b) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzo (g,h,i) perylene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzo (k) fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzoic acid	05	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Benzyl alcohol	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
bis (2-Chloroethoxy) methane	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
bis (2-Chloroethyl) ether	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
2,2'-Oxybis (1-chloropropane)	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
bis (2-Ethylhexyl) phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Metcalf	Laboratory Sample ID:	24A1569-05
Grab Date/Time:	01/25/2024 14:15		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Chrysene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Dibenz (a,h) anthracene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Dibenz (a,j) acridine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Dibenzofuran	05	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:34	BMS
Diethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Dimethyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Di-n-butyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Di-n-octyl phthalate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Diphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Ethyl methanesulfonate	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Fluoranthene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Fluorene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Hexachlorobenzene	05	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 20:34	BMS
Hexachlorobutadiene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Hexachlorocyclopentadiene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Hexachloroethane	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Indeno (1,2,3-cd) pyrene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Isophorone	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Methyl methanesulfonate	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Naphthalene	05	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 20:34	BMS
Nitrobenzene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
n-Nitrosodimethylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
n-Nitrosodi-n-butylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
n-Nitrosodi-n-propylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	G. Metcalf	Laboratory Sample ID:	24A1569-05
Grab Date/Time:	01/25/2024 14:15		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
n-Nitrosopiperidine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
o+m+p-Cresols	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
o-Cresol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
p-(Dimethylamino) azobenzene	05	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 20:34	BMS
p-Chloro-m-cresol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Pentachloronitrobenzene (quintozene)	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Pentachlorophenol	05	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Phenacetin	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Phenanthrene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Phenol	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Pronamide	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Pyrene	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Pyridine	05	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 20:34	BMS
Surr: 2,4,6-Tribromophenol (Surr)	05	SW8270E	72.4 %		5-136		01/30/24 09:15	01/30/24 20:34	BMS
Surr: 2-Fluorobiphenyl (Surr)	05	SW8270E	71.6 %		9-117		01/30/24 09:15	01/30/24 20:34	BMS
Surr: 2-Fluorophenol (Surr)	05	SW8270E	34.0 %		5-60		01/30/24 09:15	01/30/24 20:34	BMS
Surr: Nitrobenzene-d5 (Surr)	05	SW8270E	71.5 %		5-151		01/30/24 09:15	01/30/24 20:34	BMS
Surr: Phenol-d5 (Surr)	05	SW8270E	20.4 %		5-60		01/30/24 09:15	01/30/24 20:34	BMS
Surr: p-Terphenyl-d14 (Surr)	05	SW8270E	74.2 %		5-141		01/30/24 09:15	01/30/24 20:34	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer Laboratory Sample ID: 24A1569-06
 Grab Date/Time: 01/25/2024 16:36
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1,1-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1,2,2-Tetrachloroethane	06	SW8260D	<0.40 ug/L		0.40	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1,2-Trichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1-Dichloroethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,1-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2,3-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2,3-Trichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2,4-Trichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2,4-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2-Dibromo-3-chloropropane (DBCP)	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2-Dibromoethane (EDB)	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2-Dichlorobenzene	06	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2-Dichloroethane	06	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,2-Dichloropropane	06	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
1,3,5-Trimethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,3-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,3-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
1,4-Dichlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
2,2-Dichloropropane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
2-Butanone (MEK)	06	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:51	01/29/24 14:51	RJB
2-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
2-Hexanone (MBK)	06	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:51	01/29/24 14:51	RJB
4-Chlorotoluene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer	Laboratory Sample ID: 24A1569-06
Grab Date/Time: 01/25/2024 16:36	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
4-Methyl-2-pentanone (MIBK)	06	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Acetone	06	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:51	01/29/24 14:51	RJB
Benzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Bromobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Bromochloromethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Bromodichloromethane	06	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
Bromoform	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Bromomethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Carbon disulfide	06	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:51	01/29/24 14:51	RJB
Carbon tetrachloride	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Chlorobenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Chloroethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Chloroform	06	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
Chloromethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
cis-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
cis-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Dibromochloromethane	06	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
Dibromomethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Dichlorodifluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Di-isopropyl ether (DIPE)	06	SW8260D	<5.00 ug/L		5.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Ethylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Hexachlorobutadiene	06	SW8260D	<0.80 ug/L		0.80	1	01/29/24 14:51	01/29/24 14:51	RJB
Iodomethane	06	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:51	01/29/24 14:51	RJB
Isopropylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
m+p-Xylenes	06	SW8260D	<2.00 ug/L		2.00	1	01/29/24 14:51	01/29/24 14:51	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer	Laboratory Sample ID: 24A1569-06
Grab Date/Time: 01/25/2024 16:36	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	06	SW8260D	<4.00 ug/L		4.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Methyl-t-butyl ether (MTBE)	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Naphthalene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
n-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
n-Propylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
o-Xylene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
sec-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Styrene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
tert-Butylbenzene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Tetrachloroethylene (PCE)	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Toluene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
trans-1,2-Dichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
trans-1,3-Dichloropropene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Trichloroethylene	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Trichlorofluoromethane	06	SW8260D	<1.00 ug/L		1.00	1	01/29/24 14:51	01/29/24 14:51	RJB
Vinyl acetate	06	SW8260D	<10.0 ug/L		10.0	1	01/29/24 14:51	01/29/24 14:51	RJB
Vinyl chloride	06	SW8260D	<0.50 ug/L		0.50	1	01/29/24 14:51	01/29/24 14:51	RJB
Xylenes, Total	06	SW8260D	<3.00 ug/L		3.00	1	01/29/24 14:51	01/29/24 14:51	RJB
<hr style="border-top: 1px dashed black;"/>									
Surr: 1,2-Dichloroethane-d4 (Surr)	06	SW8260D	93.0 %		70-120		01/29/24 14:51	01/29/24 14:51	RJB
Surr: 4-Bromofluorobenzene (Surr)	06	SW8260D	108 %		75-120		01/29/24 14:51	01/29/24 14:51	RJB
Surr: Dibromofluoromethane (Surr)	06	SW8260D	90.2 %		70-130		01/29/24 14:51	01/29/24 14:51	RJB
Surr: Toluene-d8 (Surr)	06	SW8260D	99.3 %		70-130		01/29/24 14:51	01/29/24 14:51	RJB

Semivolatile Organic Compounds by GCMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer Laboratory Sample ID: 24A1569-06

Grab Date/Time: 01/25/2024 16:36

Field Residual CI: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
1,2,4,5-Tetrachlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1,2,4-Trichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1,2-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1,2-Diphenylhydrazine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1,3-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1,3-Dinitrobenzene	06	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 21:04	BMS
1,4-Dichlorobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
1-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,3,4,6-Tetrachlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4,5-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4,6-Trichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4-Dimethylphenol	06	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4-Dinitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,4-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,6-Dichlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,6-Dinitrotoluene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Chloronaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Chlorophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Methylnaphthalene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Naphthylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2-Nitrophenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
3,3'-Dichlorobenzidine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
3-Methylcholanthrene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
3-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer Laboratory Sample ID: 24A1569-06
 Grab Date/Time: 01/25/2024 16:36
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
4,6-Dinitro-2-methylphenol	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Aminobiphenyl	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Bromophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Chloroaniline	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Chlorophenyl phenyl ether	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Nitroaniline	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
4-Nitrophenol	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
7,12-Dimethylbenz (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Acenaphthene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Acenaphthylene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Acetophenone	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Aniline	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Anthracene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzidine	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzo (a) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzo (a) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzo (b) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzo (g,h,i) perylene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzo (k) fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzoic acid	06	SW8270E	<50.0 ug/L		50.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Benzyl alcohol	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
bis (2-Chloroethoxy) methane	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
bis (2-Chloroethyl) ether	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
2,2'-Oxybis (1-chloropropane)	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
bis (2-Ethylhexyl) phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. A. Haberer Laboratory Sample ID: 24A1569-06
 Grab Date/Time: 01/25/2024 16:36
 Field Residual Cl: Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
Butyl benzyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Chrysene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Dibenz (a,h) anthracene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Dibenz (a,j) acridine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Dibenzofuran	06	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 21:04	BMS
Diethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Dimethyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Di-n-butyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Di-n-octyl phthalate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Diphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Ethyl methanesulfonate	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Fluoranthene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Fluorene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Hexachlorobenzene	06	SW8270E	<1.00 ug/L		1.00	1	01/30/24 09:15	01/30/24 21:04	BMS
Hexachlorobutadiene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Hexachlorocyclopentadiene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Hexachloroethane	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Indeno (1,2,3-cd) pyrene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Isophorone	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Methyl methanesulfonate	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Naphthalene	06	SW8270E	<5.00 ug/L		5.00	1	01/30/24 09:15	01/30/24 21:04	BMS
Nitrobenzene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
n-Nitrosodimethylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
n-Nitrosodi-n-butylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
n-Nitrosodi-n-propylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D.	A. Haberer	Laboratory Sample ID:	24A1569-06
Grab Date/Time:	01/25/2024 16:36		
Field Residual CI:	Field pH:		

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GCMS									
n-Nitrosodiphenylamine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
n-Nitrosopiperidine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
o+m+p-Cresols	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
o-Cresol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
p-(Dimethylamino) azobenzene	06	SW8270E	<2.50 ug/L		2.50	1	01/30/24 09:15	01/30/24 21:04	BMS
p-Chloro-m-cresol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Pentachloronitrobenzene (quintozene)	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Pentachlorophenol	06	SW8270E	<20.0 ug/L		20.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Phenacetin	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Phenanthrene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Phenol	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Pronamide	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Pyrene	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Pyridine	06	SW8270E	<10.0 ug/L		10.0	1	01/30/24 09:15	01/30/24 21:04	BMS
Surr: 2,4,6-Tribromophenol (Surr)	06	SW8270E	75.3 %		5-136		01/30/24 09:15	01/30/24 21:04	BMS
Surr: 2-Fluorobiphenyl (Surr)	06	SW8270E	77.8 %		9-117		01/30/24 09:15	01/30/24 21:04	BMS
Surr: 2-Fluorophenol (Surr)	06	SW8270E	35.8 %		5-60		01/30/24 09:15	01/30/24 21:04	BMS
Surr: Nitrobenzene-d5 (Surr)	06	SW8270E	77.6 %		5-151		01/30/24 09:15	01/30/24 21:04	BMS
Surr: Phenol-d5 (Surr)	06	SW8270E	21.8 %		5-60		01/30/24 09:15	01/30/24 21:04	BMS
Surr: p-Terphenyl-d14 (Surr)	06	SW8270E	80.8 %		5-141		01/30/24 09:15	01/30/24 21:04	BMS



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 24A1569-07
Grab Date/Time: 12/08/2023 12:10	
Field Residual CI:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1,1,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1,1-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1,2,2-Tetrachloroethane	07	SW8260D	<0.40 ug/L		0.40	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1,2-Trichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1-Dichloroethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,1-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2,3-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2,3-Trichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2,4-Trichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2,4-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2-Dibromo-3-chloropropane (DBCP)	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2-Dibromoethane (EDB)	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2-Dichlorobenzene	07	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2-Dichloroethane	07	SW8260D	<1.00 ug/L	C	1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,2-Dichloropropane	07	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
1,3,5-Trimethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,3-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,3-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
1,4-Dichlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
2,2-Dichloropropane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
2-Butanone (MEK)	07	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:08	01/29/24 12:08	RJB
2-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
2-Hexanone (MBK)	07	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:08	01/29/24 12:08	RJB
4-Chlorotoluene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 31, 2024 17:02
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 24A1569-07
Grab Date/Time: 12/08/2023 12:10	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
4-Isopropyltoluene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
4-Methyl-2-pentanone (MIBK)	07	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Acetone	07	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:08	01/29/24 12:08	RJB
Benzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Bromobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Bromochloromethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Bromodichloromethane	07	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
Bromoform	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Bromomethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Carbon disulfide	07	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:08	01/29/24 12:08	RJB
Carbon tetrachloride	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Chlorobenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Chloroethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Chloroform	07	SW8260D	<0.50 ug/L	C	0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
Chloromethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
cis-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
cis-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Dibromochloromethane	07	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
Dibromomethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Dichlorodifluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Di-isopropyl ether (DIPE)	07	SW8260D	<5.00 ug/L		5.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Ethylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Hexachlorobutadiene	07	SW8260D	<0.80 ug/L		0.80	1	01/29/24 12:08	01/29/24 12:08	RJB
Iodomethane	07	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:08	01/29/24 12:08	RJB
Isopropylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
m+p-Xylenes	07	SW8260D	<2.00 ug/L		2.00	1	01/29/24 12:08	01/29/24 12:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Laboratory Order ID: 24A1569

Analytical Results

Sample I.D. Trip Blank	Laboratory Sample ID: 24A1569-07
Grab Date/Time: 12/08/2023 12:10	
Field Residual Cl:	Field pH:

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
Methylene chloride	07	SW8260D	<4.00 ug/L		4.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Methyl-t-butyl ether (MTBE)	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Naphthalene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
n-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
n-Propylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
o-Xylene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
sec-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Styrene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
tert-Butylbenzene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Tetrachloroethylene (PCE)	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Toluene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
trans-1,2-Dichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
trans-1,3-Dichloropropene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Trichloroethylene	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Trichlorofluoromethane	07	SW8260D	<1.00 ug/L		1.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Vinyl acetate	07	SW8260D	<10.0 ug/L		10.0	1	01/29/24 12:08	01/29/24 12:08	RJB
Vinyl chloride	07	SW8260D	<0.50 ug/L		0.50	1	01/29/24 12:08	01/29/24 12:08	RJB
Xylenes, Total	07	SW8260D	<3.00 ug/L		3.00	1	01/29/24 12:08	01/29/24 12:08	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	SW8260D	93.1 %		70-120		01/29/24 12:08	01/29/24 12:08	RJB
Surr: 4-Bromofluorobenzene (Surr)	07	SW8260D	109 %		75-120		01/29/24 12:08	01/29/24 12:08	RJB
Surr: Dibromofluoromethane (Surr)	07	SW8260D	86.9 %		70-130		01/29/24 12:08	01/29/24 12:08	RJB
Surr: Toluene-d8 (Surr)	07	SW8260D	101 %		70-130		01/29/24 12:08	01/29/24 12:08	RJB



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B	Date Issued:	January 31, 2024 17:02
		Project Number:	[none]
		Purchase Order:	
Submitted To:	Lorton VA, 22079 Shanna Hryvniak		
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Analytical Summary

Administrative

Preparation Method:

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS		Preparation Method: SW3510C/EPA600-MS			
24A1569-01	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
24A1569-02	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
24A1569-03	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
24A1569-04	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
24A1569-05	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
24A1569-06	1070 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B-MS			
24A1569-01	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-02	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-03	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-04	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-05	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-06	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
24A1569-07	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method: SW3510C/EPA600-MS		
BHA1042-BLK1	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
BHA1042-BS1	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
BHA1042-MS1	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
BHA1042-MS2	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
BHA1042-MSD1	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271
BHA1042-MSD2	1000 mL / 1.00 mL	SW8270E	BHA1042	SHA0999	AK30271

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B-MS		
BHA1002-BLK1	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
BHA1002-BS1	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
BHA1002-MS1	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257
BHA1002-MSD1	5.00 mL / 5.00 mL	SW8260D	BHA1002	SHA0922	AA40257



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Blank (BHA1002-BLK1)

Prepared & Analyzed: 01/29/2024

1,1,1,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,1-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1,2,2-Tetrachloroethane	<0.40 ug/L	0.40	ug/L							
1,1,2-Trichloro-1,2,2-trifluoroethane	<10.0 ug/L	10.0	ug/L							
1,1,2-Trichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,1-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
1,1-Dichloropropene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,3-Trichloropropane	<1.00 ug/L	1.00	ug/L							
1,2,4-Trichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,2,4-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	<1.00 ug/L	1.00	ug/L							
1,2-Dibromoethane (EDB)	<1.00 ug/L	1.00	ug/L							
1,2-Dichlorobenzene	<0.50 ug/L	0.50	ug/L							
1,2-Dichloroethane	<1.00 ug/L	1.00	ug/L							
1,2-Dichloropropane	<0.50 ug/L	0.50	ug/L							
1,3,5-Trimethylbenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
1,3-Dichloropropane	<1.00 ug/L	1.00	ug/L							
1,4-Dichlorobenzene	<1.00 ug/L	1.00	ug/L							
2,2-Dichloropropane	<1.00 ug/L	1.00	ug/L							
2-Butanone (MEK)	<10.0 ug/L	10.0	ug/L							
2-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
2-Hexanone (MBK)	<5.00 ug/L	5.00	ug/L							
4-Chlorotoluene	<1.00 ug/L	1.00	ug/L							
4-Isopropyltoluene	<1.00 ug/L	1.00	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.00 ug/L	5.00	ug/L							
Acetone	<10.0 ug/L	10.0	ug/L							
Acrolein	<10.0 ug/L	10.0	ug/L							
Acrylonitrile	<5.00 ug/L	5.00	ug/L							



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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Blank (BHA1002-BLK1)

Prepared & Analyzed: 01/29/2024

Benzene	<1.00 ug/L	1.00	ug/L							
Bromobenzene	<1.00 ug/L	1.00	ug/L							
Bromochloromethane	<1.00 ug/L	1.00	ug/L							
Bromodichloromethane	<0.50 ug/L	0.50	ug/L							
Bromoform	<1.00 ug/L	1.00	ug/L							
Bromomethane	<1.00 ug/L	1.00	ug/L							
Carbon disulfide	<10.0 ug/L	10.0	ug/L							
Carbon tetrachloride	<1.00 ug/L	1.00	ug/L							
Chlorobenzene	<1.00 ug/L	1.00	ug/L							
Chloroethane	<1.00 ug/L	1.00	ug/L							
Chloroform	<0.50 ug/L	0.50	ug/L							
Chloromethane	<1.00 ug/L	1.00	ug/L							
cis-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
cis-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Dibromochloromethane	<0.50 ug/L	0.50	ug/L							
Dibromomethane	<1.00 ug/L	1.00	ug/L							
Dichlorodifluoromethane	<1.00 ug/L	1.00	ug/L							
Di-isopropyl ether (DIPE)	<5.00 ug/L	5.00	ug/L							
Ethylbenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<0.80 ug/L	0.80	ug/L							
Iodomethane	<10.0 ug/L	10.0	ug/L							
Isopropylbenzene	<1.00 ug/L	1.00	ug/L							
m+p-Xylenes	<2.00 ug/L	2.00	ug/L							
Methylene chloride	<4.00 ug/L	4.00	ug/L							
Methyl-t-butyl ether (MTBE)	<1.00 ug/L	1.00	ug/L							
Naphthalene	<1.00 ug/L	1.00	ug/L							
n-Butylbenzene	<1.00 ug/L	1.00	ug/L							
n-Propylbenzene	<1.00 ug/L	1.00	ug/L							
o-Xylene	<1.00 ug/L	1.00	ug/L							
sec-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Styrene	<1.00 ug/L	1.00	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Blank (BHA1002-BLK1)

Prepared & Analyzed: 01/29/2024

tert-Butylbenzene	<1.00 ug/L	1.00	ug/L							
Tetrachloroethylene (PCE)	<1.00 ug/L	1.00	ug/L							
Toluene	<1.00 ug/L	1.00	ug/L							
trans-1,2-Dichloroethylene	<1.00 ug/L	1.00	ug/L							
trans-1,3-Dichloropropene	<1.00 ug/L	1.00	ug/L							
Trichloroethylene	<1.00 ug/L	1.00	ug/L							
Trichlorofluoromethane	<1.00 ug/L	1.00	ug/L							
Vinyl acetate	<10.0 ug/L	10.0	ug/L							
Vinyl chloride	<0.50 ug/L	0.50	ug/L							
Xylenes, Total	<3.00 ug/L	3.00	ug/L							
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Surr: 1,2-Dichloroethane-d4 (Surr)	45.4		ug/L	50.0		90.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.9		ug/L	50.0		102	75-120			
Surr: Dibromofluoromethane (Surr)	44.2		ug/L	50.0		88.4	70-130			
Surr: Toluene-d8 (Surr)	51.3		ug/L	50.0		103	70-130			

LCS (BHA1002-BS1)

Prepared & Analyzed: 01/29/2024

1,1,1,2-Tetrachloroethane	50.0 ug/L	0.4	ug/L	50.0	ug/L	100	80-130			
1,1,1-Trichloroethane	42.6 ug/L	1	ug/L	50.0	ug/L	85.2	65-130			
1,1,2,2-Tetrachloroethane	48.8 ug/L	0.4	ug/L	50.0	ug/L	97.5	65-130			
1,1,2-Trichloroethane	45.4 ug/L	1	ug/L	50.0	ug/L	90.9	75-125			
1,1-Dichloroethane	42.9 ug/L	1	ug/L	50.0	ug/L	85.8	70-135			
1,1-Dichloroethylene	42.8 ug/L	1	ug/L	50.0	ug/L	85.5	70-130			
1,1-Dichloropropene	41.3 ug/L	1	ug/L	50.0	ug/L	82.6	75-135			
1,2,3-Trichlorobenzene	43.9 ug/L	1	ug/L	50.0	ug/L	87.8	55-140			
1,2,3-Trichloropropane	45.9 ug/L	1	ug/L	50.0	ug/L	91.8	75-125			
1,2,4-Trichlorobenzene	44.5 ug/L	1	ug/L	50.0	ug/L	89.0	65-135			
1,2,4-Trimethylbenzene	49.5 ug/L	1	ug/L	50.0	ug/L	99.1	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	41.9 ug/L	1	ug/L	50.0	ug/L	83.9	50-130			
1,2-Dibromoethane (EDB)	47.4 ug/L	1	ug/L	50.0	ug/L	94.8	80-120			
1,2-Dichlorobenzene	47.0 ug/L	0.5	ug/L	50.0	ug/L	94.0	70-120			
1,2-Dichloroethane	38.3 ug/L	1	ug/L	50.0	ug/L	76.7	70-130			
1,2-Dichloropropane	41.4 ug/L	0.5	ug/L	50.0	ug/L	82.9	75-125			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

LCS (BHA1002-BS1)

Prepared & Analyzed: 01/29/2024

1,3,5-Trimethylbenzene	50.5 ug/L	1	ug/L	50.0	ug/L	101	75-125			
1,3-Dichlorobenzene	49.7 ug/L	1	ug/L	50.0	ug/L	99.4	75-125			
1,3-Dichloropropane	43.8 ug/L	1	ug/L	50.0	ug/L	87.5	75-125			
1,4-Dichlorobenzene	47.7 ug/L	1	ug/L	50.0	ug/L	95.4	75-125			
2,2-Dichloropropane	43.4 ug/L	1	ug/L	50.0	ug/L	86.7	70-135			
2-Butanone (MEK)	35.5 ug/L	10	ug/L	50.0	ug/L	71.1	30-150			
2-Chlorotoluene	51.4 ug/L	1	ug/L	50.0	ug/L	103	75-125			
2-Hexanone (MBK)	43.7 ug/L	5	ug/L	50.0	ug/L	87.5	55-130			
4-Chlorotoluene	52.3 ug/L	1	ug/L	50.0	ug/L	105	75-130			
4-Isopropyltoluene	50.8 ug/L	1	ug/L	50.0	ug/L	102	75-130			
4-Methyl-2-pentanone (MIBK)	45.7 ug/L	5	ug/L	50.0	ug/L	91.3	60-135			
Acetone	32.0 ug/L	10	ug/L	50.0	ug/L	64.1	40-140			
Benzene	43.2 ug/L	1	ug/L	50.0	ug/L	86.5	80-120			
Bromobenzene	49.2 ug/L	1	ug/L	50.0	ug/L	98.4	75-125			
Bromochloromethane	40.4 ug/L	1	ug/L	50.0	ug/L	80.8	65-130			
Bromodichloromethane	46.0 ug/L	0.5	ug/L	50.0	ug/L	92.1	75-120			
Bromoform	53.1 ug/L	1	ug/L	50.0	ug/L	106	70-130			
Bromomethane	50.9 ug/L	1	ug/L	50.0	ug/L	102	30-145			
Carbon disulfide	34.0 ug/L	10	ug/L	50.0	ug/L	68.1	35-160			
Carbon tetrachloride	44.7 ug/L	1	ug/L	50.0	ug/L	89.4	65-140			
Chlorobenzene	47.9 ug/L	1	ug/L	50.0	ug/L	95.8	80-120			
Chloroethane	59.9 ug/L	1	ug/L	50.0	ug/L	120	60-135			
Chloroform	39.5 ug/L	0.5	ug/L	50.0	ug/L	78.9	65-135			
Chloromethane	56.5 ug/L	1	ug/L	50.0	ug/L	113	40-125			
cis-1,2-Dichloroethylene	42.1 ug/L	1	ug/L	50.0	ug/L	84.2	70-125			
cis-1,3-Dichloropropene	46.0 ug/L	1	ug/L	50.0	ug/L	92.1	70-130			
Dibromochloromethane	47.9 ug/L	0.5	ug/L	50.0	ug/L	95.8	60-135			
Dibromomethane	46.2 ug/L	1	ug/L	50.0	ug/L	92.5	75-125			
Dichlorodifluoromethane	97.7 ug/L	1	ug/L	50.0	ug/L	195	30-155			L
Ethylbenzene	49.0 ug/L	1	ug/L	50.0	ug/L	97.9	75-125			
Hexachlorobutadiene	41.2 ug/L	0.8	ug/L	50.0	ug/L	82.4	50-140			



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

LCS (BHA1002-BS1)

Prepared & Analyzed: 01/29/2024

Isopropylbenzene	46.0 ug/L	1	ug/L	50.0	ug/L	91.9	75-125			
m+p-Xylenes	94.8 ug/L	2	ug/L	100	ug/L	94.8	75-130			
Methylene chloride	42.7 ug/L	4	ug/L	50.0	ug/L	85.4	55-140			
Methyl-t-butyl ether (MTBE)	40.5 ug/L	1	ug/L	50.0	ug/L	81.0	65-125			
Naphthalene	43.7 ug/L	1	ug/L	50.0	ug/L	87.4	55-140			
n-Butylbenzene	50.0 ug/L	1	ug/L	50.0	ug/L	100	70-135			
n-Propylbenzene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-130			
o-Xylene	48.4 ug/L	1	ug/L	50.0	ug/L	96.8	80-120			
sec-Butylbenzene	52.3 ug/L	1	ug/L	50.0	ug/L	105	70-125			
Styrene	50.7 ug/L	1	ug/L	50.0	ug/L	101	65-135			
tert-Butylbenzene	50.7 ug/L	1	ug/L	50.0	ug/L	101	70-130			
Tetrachloroethylene (PCE)	45.5 ug/L	1	ug/L	50.0	ug/L	91.0	45-150			
Toluene	42.0 ug/L	1	ug/L	50.0	ug/L	84.0	75-120			
trans-1,2-Dichloroethylene	41.4 ug/L	1	ug/L	50.0	ug/L	82.9	60-140			
trans-1,3-Dichloropropene	49.2 ug/L	1	ug/L	50.0	ug/L	98.3	55-140			
Trichloroethylene	43.4 ug/L	1	ug/L	50.0	ug/L	86.8	70-125			
Trichlorofluoromethane	56.9 ug/L	1	ug/L	50.0	ug/L	114	60-145			
Vinyl chloride	56.7 ug/L	0.5	ug/L	50.0	ug/L	113	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	42.8		ug/L	50.0	ug/L	85.6	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.3		ug/L	50.0	ug/L	103	75-120			
Surr: Dibromofluoromethane (Surr)	42.0		ug/L	50.0	ug/L	84.1	70-130			
Surr: Toluene-d8 (Surr)	45.6		ug/L	50.0	ug/L	91.2	70-130			

Matrix Spike (BHA1002-MS1)

Source: 24A1569-01

Prepared & Analyzed: 01/29/2024

1,1,1,2-Tetrachloroethane	51.0 ug/L	0.4	ug/L	50.0	<0.4 ug/L	102	80-130			
1,1,1-Trichloroethane	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.7	65-130			
1,1,2,2-Tetrachloroethane	51.7 ug/L	0.4	ug/L	50.0	<0.4 ug/L	103	65-130			
1,1,2-Trichloroethane	52.4 ug/L	1	ug/L	50.0	<1 ug/L	105	75-125			
1,1-Dichloroethane	42.6 ug/L	1	ug/L	50.0	<1 ug/L	85.3	70-135			
1,1-Dichloroethylene	42.6 ug/L	1	ug/L	50.0	<1 ug/L	85.3	50-145			
1,1-Dichloropropene	45.0 ug/L	1	ug/L	50.0	<1 ug/L	89.9	75-135			
1,2,3-Trichlorobenzene	45.6 ug/L	1	ug/L	50.0	<1 ug/L	91.1	55-140			



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 8382 Terminal Rd, Bay B Project Number: [none]
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 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Matrix Spike (BHA1002-MS1)

Source: 24A1569-01

Prepared & Analyzed: 01/29/2024

1,2,3-Trichloropropane	49.0 ug/L	1	ug/L	50.0	<1 ug/L	98.1	75-125			
1,2,4-Trichlorobenzene	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.8	65-135			
1,2,4-Trimethylbenzene	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	75-130			
1,2-Dibromo-3-chloropropane (DBCP)	49.1 ug/L	1	ug/L	50.0	<1 ug/L	98.2	50-130			
1,2-Dibromoethane (EDB)	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	80-120			
1,2-Dichlorobenzene	48.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	96.5	70-120			
1,2-Dichloroethane	44.0 ug/L	1	ug/L	50.0	<1 ug/L	88.1	70-130			
1,2-Dichloropropane	46.1 ug/L	0.5	ug/L	50.0	<0.5 ug/L	92.2	75-125			
1,3,5-Trimethylbenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	75-124			
1,3-Dichlorobenzene	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
1,3-Dichloropropane	50.8 ug/L	1	ug/L	50.0	<1 ug/L	102	75-125			
1,4-Dichlorobenzene	48.9 ug/L	1	ug/L	50.0	<1 ug/L	97.8	75-125			
2,2-Dichloropropane	43.2 ug/L	1	ug/L	50.0	<1 ug/L	86.5	70-135			
2-Butanone (MEK)	43.8 ug/L	10	ug/L	50.0	<10 ug/L	87.7	30-150			
2-Chlorotoluene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125			
2-Hexanone (MBK)	56.2 ug/L	5	ug/L	50.0	<5 ug/L	112	55-130			
4-Chlorotoluene	53.4 ug/L	1	ug/L	50.0	<1 ug/L	107	75-130			
4-Isopropyltoluene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130			
4-Methyl-2-pentanone (MIBK)	57.4 ug/L	5	ug/L	50.0	<5 ug/L	115	60-135			
Acetone	38.1 ug/L	10	ug/L	50.0	<10 ug/L	76.3	40-140			
Benzene	47.1 ug/L	1	ug/L	50.0	<1 ug/L	94.2	80-120			
Bromobenzene	49.6 ug/L	1	ug/L	50.0	<1 ug/L	99.2	75-125			
Bromochloromethane	40.2 ug/L	1	ug/L	50.0	<1 ug/L	80.3	65-130			
Bromodichloromethane	52.9 ug/L	0.5	ug/L	50.0	<0.5 ug/L	106	75-136			
Bromoform	56.0 ug/L	1	ug/L	50.0	<1 ug/L	112	70-130			
Bromomethane	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.5	30-145			
Carbon disulfide	37.7 ug/L	10	ug/L	50.0	<10 ug/L	75.4	35-160			
Carbon tetrachloride	52.8 ug/L	1	ug/L	50.0	<1 ug/L	106	65-140			
Chlorobenzene	49.1 ug/L	1	ug/L	50.0	<1 ug/L	98.1	80-120			
Chloroethane	57.3 ug/L	1	ug/L	50.0	<1 ug/L	115	60-135			
Chloroform	39.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	78.4	65-135			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Matrix Spike (BHA1002-MS1)

Source: 24A1569-01

Prepared & Analyzed: 01/29/2024

Chloromethane	53.6 ug/L	1	ug/L	50.0	<1 ug/L	107	40-125			
cis-1,2-Dichloroethylene	41.8 ug/L	1	ug/L	50.0	<1 ug/L	83.7	70-125			
cis-1,3-Dichloropropene	56.2 ug/L	1	ug/L	50.0	<1 ug/L	112	47-136			
Dibromochloromethane	55.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	111	60-135			
Dibromomethane	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125			
Dichlorodifluoromethane	75.3 ug/L	1	ug/L	50.0	<1 ug/L	151	30-155			
Ethylbenzene	49.7 ug/L	1	ug/L	50.0	<1 ug/L	99.4	75-125			
Hexachlorobutadiene	43.0 ug/L	0.8	ug/L	50.0	<0.8 ug/L	86.0	50-140			
Isopropylbenzene	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.8	75-125			
m+p-Xylenes	95.6 ug/L	2	ug/L	100	<2 ug/L	95.6	75-130			
Methylene chloride	40.8 ug/L	4	ug/L	50.0	<4 ug/L	81.6	55-140			
Methyl-t-butyl ether (MTBE)	41.5 ug/L	1	ug/L	50.0	<1 ug/L	82.9	65-125			
Naphthalene	48.3 ug/L	1	ug/L	50.0	<1 ug/L	96.5	55-140			
n-Butylbenzene	51.1 ug/L	1	ug/L	50.0	<1 ug/L	102	70-135			
n-Propylbenzene	53.7 ug/L	1	ug/L	50.0	<1 ug/L	107	70-130			
o-Xylene	49.2 ug/L	1	ug/L	50.0	<1 ug/L	98.4	80-120			
sec-Butylbenzene	53.2 ug/L	1	ug/L	50.0	<1 ug/L	106	70-125			
Styrene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	65-135			
tert-Butylbenzene	51.7 ug/L	1	ug/L	50.0	<1 ug/L	103	70-130			
Tetrachloroethylene (PCE)	45.3 ug/L	1	ug/L	50.0	<1 ug/L	90.7	51-231			
Toluene	47.5 ug/L	1	ug/L	50.0	<1 ug/L	95.0	75-120			
trans-1,2-Dichloroethylene	41.4 ug/L	1	ug/L	50.0	<1 ug/L	82.7	60-140			
trans-1,3-Dichloropropene	56.4 ug/L	1	ug/L	50.0	<1 ug/L	113	55-140			
Trichloroethylene	48.6 ug/L	1	ug/L	50.0	<1 ug/L	97.2	70-125			
Trichlorofluoromethane	48.3 ug/L	1	ug/L	50.0	<1 ug/L	96.6	60-145			
Vinyl chloride	51.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	103	50-145			
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	45.6		ug/L	50.0	ug/L	91.2	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.3		ug/L	50.0	ug/L	101	75-120			
Surr: Dibromofluoromethane (Surr)	41.0		ug/L	50.0	ug/L	82.1	70-130			
Surr: Toluene-d8 (Surr)	51.2		ug/L	50.0	ug/L	102	70-130			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Matrix Spike Dup (BHA1002-MSD1)

Source: 24A1569-01

Prepared & Analyzed: 01/29/2024

1,1,1,2-Tetrachloroethane	51.3 ug/L	0.4	ug/L	50.0	<0.4 ug/L	103	80-130	0.684	30	
1,1,1-Trichloroethane	47.2 ug/L	1	ug/L	50.0	<1 ug/L	94.4	65-130	1.77	30	
1,1,2,2-Tetrachloroethane	53.3 ug/L	0.4	ug/L	50.0	<0.4 ug/L	107	65-130	2.97	30	
1,1,2-Trichloroethane	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.8	75-125	7.91	30	
1,1-Dichloroethane	41.6 ug/L	1	ug/L	50.0	<1 ug/L	83.2	70-135	2.49	30	
1,1-Dichloroethylene	41.6 ug/L	1	ug/L	50.0	<1 ug/L	83.1	50-145	2.57	30	
1,1-Dichloropropene	45.6 ug/L	1	ug/L	50.0	<1 ug/L	91.2	75-135	1.46	30	
1,2,3-Trichlorobenzene	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.8	55-140	1.85	30	
1,2,3-Trichloropropane	50.3 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125	2.62	30	
1,2,4-Trichlorobenzene	46.5 ug/L	1	ug/L	50.0	<1 ug/L	92.9	65-135	0.0861	30	
1,2,4-Trimethylbenzene	51.6 ug/L	1	ug/L	50.0	<1 ug/L	103	75-130	0.213	30	
1,2-Dibromo-3-chloropropane (DBCP)	50.2 ug/L	1	ug/L	50.0	<1 ug/L	100	50-130	2.32	30	
1,2-Dibromoethane (EDB)	50.6 ug/L	1	ug/L	50.0	<1 ug/L	101	80-120	1.68	30	
1,2-Dichlorobenzene	48.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	97.1	70-120	0.640	30	
1,2-Dichloroethane	43.6 ug/L	1	ug/L	50.0	<1 ug/L	87.3	70-130	0.890	30	
1,2-Dichloropropane	48.0 ug/L	0.5	ug/L	50.0	<0.5 ug/L	96.1	75-125	4.10	30	
1,3,5-Trimethylbenzene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	75-124	1.32	30	
1,3-Dichlorobenzene	51.4 ug/L	1	ug/L	50.0	<1 ug/L	103	75-125	1.04	30	
1,3-Dichloropropane	46.5 ug/L	1	ug/L	50.0	<1 ug/L	93.0	75-125	8.84	30	
1,4-Dichlorobenzene	49.4 ug/L	1	ug/L	50.0	<1 ug/L	98.8	75-125	1.10	30	
2,2-Dichloropropane	42.1 ug/L	1	ug/L	50.0	<1 ug/L	84.2	70-135	2.67	30	
2-Butanone (MEK)	41.0 ug/L	10	ug/L	50.0	<10 ug/L	82.0	30-150	6.62	30	
2-Chlorotoluene	53.5 ug/L	1	ug/L	50.0	<1 ug/L	107	75-125	0.375	30	
2-Hexanone (MBK)	53.9 ug/L	5	ug/L	50.0	<5 ug/L	108	55-130	4.23	30	
4-Chlorotoluene	53.8 ug/L	1	ug/L	50.0	<1 ug/L	108	75-130	0.634	30	
4-Isopropyltoluene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	75-130	0.173	30	
4-Methyl-2-pentanone (MIBK)	50.3 ug/L	5	ug/L	50.0	<5 ug/L	101	60-135	13.2	30	
Acetone	35.6 ug/L	10	ug/L	50.0	<10 ug/L	71.1	40-140	7.03	30	
Benzene	48.4 ug/L	1	ug/L	50.0	<1 ug/L	96.7	80-120	2.64	30	
Bromobenzene	50.4 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125	1.54	30	
Bromochloromethane	39.4 ug/L	1	ug/L	50.0	<1 ug/L	78.9	65-130	1.76	30	



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Matrix Spike Dup (BHA1002-MSD1)

Source: 24A1569-01

Prepared & Analyzed: 01/29/2024

Bromodichloromethane	51.6 ug/L	0.5	ug/L	50.0	<0.5 ug/L	103	75-136	2.62	30	
Bromoform	57.1 ug/L	1	ug/L	50.0	<1 ug/L	114	70-130	2.03	30	
Bromomethane	44.4 ug/L	1	ug/L	50.0	<1 ug/L	88.7	30-145	5.25	30	
Carbon disulfide	34.1 ug/L	10	ug/L	50.0	<10 ug/L	68.2	35-160	10.0	30	
Carbon tetrachloride	52.9 ug/L	1	ug/L	50.0	<1 ug/L	106	65-140	0.189	30	
Chlorobenzene	49.3 ug/L	1	ug/L	50.0	<1 ug/L	98.5	80-120	0.407	30	
Chloroethane	44.8 ug/L	1	ug/L	50.0	<1 ug/L	89.6	60-135	24.5	30	
Chloroform	38.4 ug/L	0.5	ug/L	50.0	<0.5 ug/L	76.7	65-135	2.19	30	
Chloromethane	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	40-125	6.74	30	
cis-1,2-Dichloroethylene	41.3 ug/L	1	ug/L	50.0	<1 ug/L	82.6	70-125	1.30	30	
cis-1,3-Dichloropropene	46.4 ug/L	1	ug/L	50.0	<1 ug/L	92.7	47-136	19.2	30	
Dibromochloromethane	50.5 ug/L	0.5	ug/L	50.0	<0.5 ug/L	101	60-135	9.40	30	
Dibromomethane	50.5 ug/L	1	ug/L	50.0	<1 ug/L	101	75-125	0.218	30	
Dichlorodifluoromethane	73.3 ug/L	1	ug/L	50.0	<1 ug/L	147	30-155	2.72	30	
Ethylbenzene	50.1 ug/L	1	ug/L	50.0	<1 ug/L	100	75-125	0.782	30	
Hexachlorobutadiene	42.9 ug/L	0.8	ug/L	50.0	<0.8 ug/L	85.8	50-140	0.163	30	
Isopropylbenzene	46.8 ug/L	1	ug/L	50.0	<1 ug/L	93.7	75-125	0.922	30	
m+p-Xylenes	96.2 ug/L	2	ug/L	100	<2 ug/L	96.2	75-130	0.594	30	
Methylene chloride	39.8 ug/L	4	ug/L	50.0	<4 ug/L	79.5	55-140	2.53	30	
Methyl-t-butyl ether (MTBE)	41.2 ug/L	1	ug/L	50.0	<1 ug/L	82.4	65-125	0.678	30	
Naphthalene	48.3 ug/L	1	ug/L	50.0	<1 ug/L	96.6	55-140	0.0207	30	
n-Butylbenzene	51.3 ug/L	1	ug/L	50.0	<1 ug/L	103	70-135	0.390	30	
n-Propylbenzene	54.0 ug/L	1	ug/L	50.0	<1 ug/L	108	70-130	0.483	30	
o-Xylene	49.8 ug/L	1	ug/L	50.0	<1 ug/L	99.7	80-120	1.35	30	
sec-Butylbenzene	53.3 ug/L	1	ug/L	50.0	<1 ug/L	107	70-125	0.0188	30	
Styrene	51.9 ug/L	1	ug/L	50.0	<1 ug/L	104	65-135	0.580	30	
tert-Butylbenzene	52.1 ug/L	1	ug/L	50.0	<1 ug/L	104	70-130	0.790	30	
Tetrachloroethylene (PCE)	45.6 ug/L	1	ug/L	50.0	<1 ug/L	91.2	51-231	0.550	30	
Toluene	43.2 ug/L	1	ug/L	50.0	<1 ug/L	86.5	75-120	9.35	30	
trans-1,2-Dichloroethylene	40.1 ug/L	1	ug/L	50.0	<1 ug/L	80.1	60-140	3.17	30	
trans-1,3-Dichloropropene	52.0 ug/L	1	ug/L	50.0	<1 ug/L	104	55-140	8.11	30	



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Certificate of Analysis

Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1002 - SW5030B-MS

Matrix Spike Dup (BHA1002-MSD1)	Source: 24A1569-01			Prepared & Analyzed: 01/29/2024						
Trichloroethylene	48.8 ug/L	1	ug/L	50.0	<1 ug/L	97.6	70-125	0.390	30	
Trichlorofluoromethane	51.5 ug/L	1	ug/L	50.0	<1 ug/L	103	60-145	6.51	30	
Vinyl chloride	49.2 ug/L	0.5	ug/L	50.0	<0.5 ug/L	98.5	50-145	4.53	30	
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Surr: 1,2-Dichloroethane-d4 (Surr)	41.4		ug/L	50.0	ug/L	82.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.5		ug/L	50.0	ug/L	101	75-120			
Surr: Dibromofluoromethane (Surr)	40.3		ug/L	50.0	ug/L	80.5	70-130			
Surr: Toluene-d8 (Surr)	46.3		ug/L	50.0	ug/L	92.7	70-130			



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Date Issued: January 31, 2024 17:02
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 Purchase Order:

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Blank (BHA1042-BLK1)

Prepared & Analyzed: 01/30/2024

1,2,4,5-Tetrachlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2,4-Trichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,2-Diphenylhydrazine	<10.0 ug/L	10.0	ug/L							
1,3-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1,3-Dinitrobenzene	<2.50 ug/L	2.50	ug/L							
1,4-Dichlorobenzene	<10.0 ug/L	10.0	ug/L							
1-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,5-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4,6-Trichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,4-Dimethylphenol	<5.00 ug/L	5.00	ug/L							
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L							
2,4-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2,6-Dichlorophenol	<10.0 ug/L	10.0	ug/L							
2,6-Dinitrotoluene	<10.0 ug/L	10.0	ug/L							
2-Chloronaphthalene	<10.0 ug/L	10.0	ug/L							
2-Chlorophenol	<10.0 ug/L	10.0	ug/L							
2-Methylnaphthalene	<10.0 ug/L	10.0	ug/L							
2-Naphthylamine	<10.0 ug/L	10.0	ug/L							
2-Nitroaniline	<20.0 ug/L	20.0	ug/L							
2-Nitrophenol	<10.0 ug/L	10.0	ug/L							
3,3'-Dichlorobenzidine	<10.0 ug/L	10.0	ug/L							
3-Methylcholanthrene	<10.0 ug/L	10.0	ug/L							
3-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L							
4-Aminobiphenyl	<10.0 ug/L	10.0	ug/L							
4-Bromophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							
4-Chloroaniline	<10.0 ug/L	10.0	ug/L							
4-Chlorophenyl phenyl ether	<10.0 ug/L	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Blank (BHA1042-BLK1)

Prepared & Analyzed: 01/30/2024

4-Nitroaniline	<20.0 ug/L	20.0	ug/L							
4-Nitrophenol	<50.0 ug/L	50.0	ug/L							
7,12-Dimethylbenz (a) anthracene	<10.0 ug/L	10.0	ug/L							
Acenaphthene	<10.0 ug/L	10.0	ug/L							
Acenaphthylene	<10.0 ug/L	10.0	ug/L							
Acetophenone	<20.0 ug/L	20.0	ug/L							
Aniline	<50.0 ug/L	50.0	ug/L							
Anthracene	<10.0 ug/L	10.0	ug/L							
Benzidine	<50.0 ug/L	50.0	ug/L							
Benzo (a) anthracene	<10.0 ug/L	10.0	ug/L							
Benzo (a) pyrene	<10.0 ug/L	10.0	ug/L							
Benzo (b) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzo (g,h,i) perylene	<10.0 ug/L	10.0	ug/L							
Benzo (k) fluoranthene	<10.0 ug/L	10.0	ug/L							
Benzoic acid	<50.0 ug/L	50.0	ug/L							
Benzyl alcohol	<20.0 ug/L	20.0	ug/L							
bis (2-Chloroethoxy) methane	<10.0 ug/L	10.0	ug/L							
bis (2-Chloroethyl) ether	<10.0 ug/L	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	<10.0 ug/L	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	<10.0 ug/L	10.0	ug/L							
Butyl benzyl phthalate	<10.0 ug/L	10.0	ug/L							
Chrysene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,h) anthracene	<10.0 ug/L	10.0	ug/L							
Dibenz (a,j) acridine	<10.0 ug/L	10.0	ug/L							
Dibenzofuran	<5.00 ug/L	5.00	ug/L							
Diethyl phthalate	<10.0 ug/L	10.0	ug/L							
Dimethyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-butyl phthalate	<10.0 ug/L	10.0	ug/L							
Di-n-octyl phthalate	<10.0 ug/L	10.0	ug/L							
Diphenylamine	<10.0 ug/L	10.0	ug/L							
Ethyl methanesulfonate	<20.0 ug/L	20.0	ug/L							



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Blank (BHA1042-BLK1)

Prepared & Analyzed: 01/30/2024

Fluoranthene	<10.0 ug/L	10.0	ug/L							
Fluorene	<10.0 ug/L	10.0	ug/L							
Hexachlorobenzene	<1.00 ug/L	1.00	ug/L							
Hexachlorobutadiene	<10.0 ug/L	10.0	ug/L							
Hexachlorocyclopentadiene	<10.0 ug/L	10.0	ug/L							
Hexachloroethane	<10.0 ug/L	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	<10.0 ug/L	10.0	ug/L							
Isophorone	<10.0 ug/L	10.0	ug/L							
m+p-Cresols	<10.0 ug/L	10.0	ug/L							
Methyl methanesulfonate	<10.0 ug/L	10.0	ug/L							
Naphthalene	<5.00 ug/L	5.00	ug/L							
Nitrobenzene	<10.0 ug/L	10.0	ug/L							
n-Nitrosodimethylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-butylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodi-n-propylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosodiphenylamine	<10.0 ug/L	10.0	ug/L							
n-Nitrosopiperidine	<10.0 ug/L	10.0	ug/L							
o+m+p-Cresols	<10.0 ug/L	10.0	ug/L							
o-Cresol	<10.0 ug/L	10.0	ug/L							
p-(Dimethylamino) azobenzene	<2.50 ug/L	2.50	ug/L							
p-Chloro-m-cresol	<10.0 ug/L	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	<10.0 ug/L	10.0	ug/L							
Pentachlorophenol	<20.0 ug/L	20.0	ug/L							
Phenacetin	<10.0 ug/L	10.0	ug/L							
Phenanthrene	<10.0 ug/L	10.0	ug/L							
Phenol	<10.0 ug/L	10.0	ug/L							
Pronamide	<10.0 ug/L	10.0	ug/L							
Pyrene	<10.0 ug/L	10.0	ug/L							
Pyridine	<10.0 ug/L	10.0	ug/L							
<hr/>										
Surr: 2,4,6-Tribromophenol (Surr)	60.6		ug/L	100		60.6	5-136			
Surr: 2-Fluorobiphenyl (Surr)	31.8		ug/L	50.0		63.5	9-117			



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Certificate of Analysis

Final Report

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 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Blank (BHA1042-BLK1)

Prepared & Analyzed: 01/30/2024

Surr: 2-Fluorophenol (Surr)	36.2		ug/L	100		36.2	5-60			
Surr: Nitrobenzene-d5 (Surr)	31.4		ug/L	50.0		62.8	5-151			
Surr: Phenol-d5 (Surr)	20.5		ug/L	100		20.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	35.4		ug/L	50.0		70.9	5-141			

LCS (BHA1042-BS1)

Prepared & Analyzed: 01/30/2024

1,2,4-Trichlorobenzene	34.9 ug/L	10.0	ug/L	50.0	ug/L	69.7	57-130			
1,2-Dichlorobenzene	29.0 ug/L	10.0	ug/L	50.0	ug/L	57.9	22-115			
1,3-Dichlorobenzene	27.3 ug/L	10.0	ug/L	50.0	ug/L	54.6	22-112			
1,4-Dichlorobenzene	32.8 ug/L	10.0	ug/L	50.0	ug/L	65.6	13-112			
2,4,6-Trichlorophenol	39.8 ug/L	10.0	ug/L	50.0	ug/L	79.6	52-129			
2,4-Dichlorophenol	35.0 ug/L	10.0	ug/L	50.0	ug/L	70.1	53-122			
2,4-Dimethylphenol	31.5 ug/L	5.00	ug/L	50.0	ug/L	63.0	42-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	72.4	48-127			
2,4-Dinitrotoluene	36.7 ug/L	10.0	ug/L	50.0	ug/L	73.3	10-173			
2,6-Dinitrotoluene	29.5 ug/L	10.0	ug/L	50.0	ug/L	58.9	68-137			C
2-Chloronaphthalene	33.2 ug/L	10.0	ug/L	50.0	ug/L	66.5	65-120			
2-Chlorophenol	28.4 ug/L	10.0	ug/L	50.0	ug/L	56.9	36-120			
2-Nitrophenol	29.0 ug/L	10.0	ug/L	50.0	ug/L	58.1	45-167			
3,3'-Dichlorobenzidine	40.2 ug/L	10.0	ug/L	50.0	ug/L	80.4	10-213			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	76.9	53-130			
4-Bromophenyl phenyl ether	34.1 ug/L	10.0	ug/L	50.0	ug/L	68.2	65-120			
4-Chlorophenyl phenyl ether	35.7 ug/L	10.0	ug/L	50.0	ug/L	71.5	38-145			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	ug/L	28.9	13-129			
Acenaphthene	32.3 ug/L	10.0	ug/L	50.0	ug/L	64.6	60-132			
Acenaphthylene	34.6 ug/L	10.0	ug/L	50.0	ug/L	69.3	54-126			
Acetophenone	32.9 ug/L	20.0	ug/L	50.0	ug/L	65.8	0-200			
Anthracene	29.9 ug/L	10.0	ug/L	50.0	ug/L	59.8	43-120			
Benzo (a) anthracene	40.8 ug/L	10.0	ug/L	50.0	ug/L	81.6	42-133			
Benzo (a) pyrene	42.6 ug/L	10.0	ug/L	50.0	ug/L	85.3	32-148			
Benzo (b) fluoranthene	43.1 ug/L	10.0	ug/L	50.0	ug/L	86.3	42-140			
Benzo (g,h,i) perylene	29.4 ug/L	10.0	ug/L	50.0	ug/L	58.9	10-195			



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Certificate of Analysis

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 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

LCS (BHA1042-BS1)

Prepared & Analyzed: 01/30/2024

Benzo (k) fluoranthene	42.0 ug/L	10.0	ug/L	50.0	ug/L	84.1	25-146			
bis (2-Chloroethoxy) methane	28.4 ug/L	10.0	ug/L	50.0	ug/L	56.7	49-165			
bis (2-Chloroethyl) ether	27.2 ug/L	10.0	ug/L	50.0	ug/L	54.4	43-126			
2,2'-Oxybis (1-chloropropane)	28.5 ug/L	10.0	ug/L	50.0	ug/L	57.0	63-139			L
bis (2-Ethylhexyl) phthalate	27.6 ug/L	10.0	ug/L	50.0	ug/L	55.2	29-137			
Butyl benzyl phthalate	29.7 ug/L	10.0	ug/L	50.0	ug/L	59.5	10-140			
Chrysene	33.7 ug/L	10.0	ug/L	50.0	ug/L	67.5	44-140			
Dibenz (a,h) anthracene	36.4 ug/L	10.0	ug/L	50.0	ug/L	72.9	10-200			
Diethyl phthalate	37.8 ug/L	10.0	ug/L	50.0	ug/L	75.5	10-120			
Dimethyl phthalate	32.2 ug/L	10.0	ug/L	50.0	ug/L	64.4	10-120			
Di-n-butyl phthalate	38.9 ug/L	10.0	ug/L	50.0	ug/L	77.8	10-120			
Di-n-octyl phthalate	39.8 ug/L	10.0	ug/L	50.0	ug/L	79.6	19-132			
Fluoranthene	42.3 ug/L	10.0	ug/L	50.0	ug/L	84.5	43-121			
Fluorene	38.0 ug/L	10.0	ug/L	50.0	ug/L	76.0	70-120			
Hexachlorobenzene	33.1 ug/L	1.00	ug/L	50.0	ug/L	66.1	10-142			
Hexachlorobutadiene	42.3 ug/L	10.0	ug/L	50.0	ug/L	84.6	38-120			
Hexachlorocyclopentadiene	25.8 ug/L	10.0	ug/L	50.0	ug/L	51.7	10-76			
Hexachloroethane	34.0 ug/L	10.0	ug/L	50.0	ug/L	68.0	55-120			
Indeno (1,2,3-cd) pyrene	34.0 ug/L	10.0	ug/L	50.0	ug/L	67.9	10-151			
Isophorone	22.9 ug/L	10.0	ug/L	50.0	ug/L	45.8	47-180			L
Naphthalene	34.3 ug/L	5.00	ug/L	50.0	ug/L	68.7	36-120			
Nitrobenzene	36.4 ug/L	10.0	ug/L	50.0	ug/L	72.7	54-158			
n-Nitrosodimethylamine	18.4 ug/L	10.0	ug/L	50.0	ug/L	36.9	10-85			
n-Nitrosodi-n-propylamine	34.8 ug/L	10.0	ug/L	50.0	ug/L	69.5	14-198			
n-Nitrosodiphenylamine	30.5 ug/L	10.0	ug/L	50.0	ug/L	61.0	12-97			
p-Chloro-m-cresol	28.7 ug/L	10.0	ug/L	50.0	ug/L	57.4	10-142			
Pentachlorophenol	26.9 ug/L	20.0	ug/L	50.0	ug/L	53.8	38-152			
Phenanthrene	40.0 ug/L	10.0	ug/L	50.0	ug/L	80.0	65-120			
Phenol	12.4 ug/L	10.0	ug/L	50.5	ug/L	24.7	17-120			
Pyrene	31.6 ug/L	10.0	ug/L	50.0	ug/L	63.1	70-120			L
Pyridine	24.4 ug/L	10.0	ug/L	50.0	ug/L	48.9	10-103			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

LCS (BHA1042-BS1)

Prepared & Analyzed: 01/30/2024

Surr: 2,4,6-Tribromophenol (Surr)	71.9		ug/L	100	ug/L	71.9	5-136			
Surr: 2-Fluorobiphenyl (Surr)	33.8		ug/L	50.0	ug/L	67.6	9-117			
Surr: 2-Fluorophenol (Surr)	39.5		ug/L	100	ug/L	39.5	5-60			
Surr: Nitrobenzene-d5 (Surr)	35.4		ug/L	50.0	ug/L	70.7	5-151			
Surr: Phenol-d5 (Surr)	28.8		ug/L	100	ug/L	28.8	5-60			
Surr: p-Terphenyl-d14 (Surr)	31.9		ug/L	50.0	ug/L	63.8	5-141			

Matrix Spike (BHA1042-MS1)

Source: 24A1484-03

Prepared & Analyzed: 01/30/2024

1,2,4-Trichlorobenzene	40.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.2	44-142			
1,2-Dichlorobenzene	32.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.5	22-115			
1,3-Dichlorobenzene	30.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.6	22-112			
1,4-Dichlorobenzene	37.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	74.6	13-112			
2,4,6-Trichlorophenol	47.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	94.2	37-144			
2,4-Dichlorophenol	41.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	82.4	39-135			
2,4-Dimethylphenol	36.5 ug/L	5.00	ug/L	50.0	<5.00 ug/L	73.1	32-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	89.2	39-139			
2,4-Dinitrotoluene	42.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	85.3	10-191			
2,6-Dinitrotoluene	33.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.6	50-158			
2-Chloronaphthalene	38.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	77.7	60-120			
2-Chlorophenol	32.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	63.9	23-134			
2-Nitrophenol	33.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.2	29-182			
3,3'-Dichlorobenzidine	35.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.8	10-262			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	92.7	10-181			
4-Bromophenyl phenyl ether	39.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.3	53-127			
4-Chlorophenyl phenyl ether	40.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.0	25-158			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	35.2	10-132			
Acenaphthene	37.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.8	47-145			
Acenaphthylene	40.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.2	33-145			
Acetophenone	37.9 ug/L	20.0	ug/L	50.0	<20.0 ug/L	75.7	0-200			
Anthracene	35.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.2	27-133			
Benzo (a) anthracene	42.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	85.4	33-143			
Benzo (a) pyrene	48.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	97.8	17-163			



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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike (BHA1042-MS1)

Source: 24A1484-03

Prepared & Analyzed: 01/30/2024

Benzo (b) fluoranthene	44.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	89.9	24-159			
Benzo (g,h,i) perylene	36.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	72.0	10-219			
Benzo (k) fluoranthene	35.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	71.8	11-162			
bis (2-Chloroethoxy) methane	33.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.8	33-184			
bis (2-Chloroethyl) ether	30.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.6	12-158			
2,2'-Oxybis (1-chloropropane)	31.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	62.4	36-166			
bis (2-Ethylhexyl) phthalate	29.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	59.3	10-158			
Butyl benzyl phthalate	33.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.4	10-152			
Chrysene	36.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	72.0	17-169			
Dibenz (a,h) anthracene	46.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	92.5	10-227			
Diethyl phthalate	43.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	86.0	10-120			
Dimethyl phthalate	36.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	73.6	10-120			
Di-n-butyl phthalate	43.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	87.0	10-120			
Di-n-octyl phthalate	41.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	82.9	10-146			
Fluoranthene	46.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.4	26-137			
Fluorene	43.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	87.6	59-121			
Hexachlorobenzene	37.1 ug/L	1.00	ug/L	50.0	<1.00 ug/L	74.2	10-152			
Hexachlorobutadiene	49.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	98.0	24-120			
Hexachlorocyclopentadiene	29.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	59.1	10-90			
Hexachloroethane	38.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	77.4	40-120			
Indeno (1,2,3-cd) pyrene	43.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	87.9	10-171			
Isophorone	26.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	52.2	21-196			
Naphthalene	42.1 ug/L	5.00	ug/L	50.0	<5.00 ug/L	84.2	21-133			
Nitrobenzene	42.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	85.6	35-180			
n-Nitrosodimethylamine	15.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	30.4	10-85			
n-Nitrosodi-n-propylamine	40.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	80.3	10-230			
n-Nitrosodiphenylamine	34.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	69.4	12-111			
p-Chloro-m-cresol	34.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	68.8	10-127			
Pentachlorophenol	33.3 ug/L	20.0	ug/L	50.0	<20.0 ug/L	66.6	14-176			
Phenanthrene	46.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.4	54-120			
Phenol	12.9 ug/L	10.0	ug/L	50.5	<10.0 ug/L	25.5	10-120			



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Final Report

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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike (BHA1042-MS1)	Source: 24A1484-03			Prepared & Analyzed: 01/30/2024						
Pyrene	33.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.4	52-120			
Pyridine	23.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	47.0	10-110			
<hr style="border-top: 1px dashed black;"/>										
Surr: 2,4,6-Tribromophenol (Surr)	83.6		ug/L	100	ug/L	83.6	5-136			
Surr: 2-Fluorobiphenyl (Surr)	40.1		ug/L	50.0	ug/L	80.2	9-117			
Surr: 2-Fluorophenol (Surr)	39.8		ug/L	100	ug/L	39.8	5-60			
Surr: Nitrobenzene-d5 (Surr)	39.7		ug/L	50.0	ug/L	79.5	5-151			
Surr: Phenol-d5 (Surr)	23.8		ug/L	100	ug/L	23.8	5-60			
Surr: p-Terphenyl-d14 (Surr)	30.0		ug/L	50.0	ug/L	59.9	5-141			

Matrix Spike (BHA1042-MS2)	Source: 24A1504-02			Prepared & Analyzed: 01/30/2024						
1,2,4-Trichlorobenzene	30.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	60.0	44-142			
1,2-Dichlorobenzene	24.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	48.4	22-115			
1,3-Dichlorobenzene	22.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	44.7	22-112			
1,4-Dichlorobenzene	29.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	58.5	13-112			
2,4,6-Trichlorophenol	44.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	89.3	37-144			
2,4-Dichlorophenol	37.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.1	39-135			
2,4-Dimethylphenol	32.6 ug/L	5.00	ug/L	50.0	<5.00 ug/L	65.2	32-120			
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	80.0	39-139			
2,4-Dinitrotoluene	37.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.1	10-191			
2,6-Dinitrotoluene	30.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.7	50-158			
2-Chloronaphthalene	31.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	63.9	60-120			
2-Chlorophenol	28.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	57.2	23-134			
2-Nitrophenol	30.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.0	29-182			
3,3'-Dichlorobenzidine	19.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	38.1	10-262			
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	81.4	10-181			
4-Bromophenyl phenyl ether	36.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	73.0	53-127			
4-Chlorophenyl phenyl ether	36.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	73.3	25-158			
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	37.4	10-132			
Acenaphthene	33.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.4	47-145			
Acenaphthylene	34.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	69.7	33-145			
Acetophenone	32.4 ug/L	20.0	ug/L	50.0	<20.0 ug/L	64.9	0-200			
Anthracene	33.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.4	27-133			



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike (BHA1042-MS2)

Source: 24A1504-02

Prepared & Analyzed: 01/30/2024

Benzo (a) anthracene	42.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	84.9	33-143			
Benzo (a) pyrene	46.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.4	17-163			
Benzo (b) fluoranthene	45.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	91.1	24-159			
Benzo (g,h,i) perylene	29.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	59.2	10-219			
Benzo (k) fluoranthene	47.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	95.3	11-162			
bis (2-Chloroethoxy) methane	29.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	58.8	33-184			
bis (2-Chloroethyl) ether	27.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	54.2	12-158			
2,2'-Oxybis (1-chloropropane)	27.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	54.1	36-166			
bis (2-Ethylhexyl) phthalate	30.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.6	10-158			
Butyl benzyl phthalate	33.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.3	10-152			
Chrysene	36.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	72.9	17-169			
Dibenz (a,h) anthracene	37.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.5	10-227			
Diethyl phthalate	37.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.5	10-120			
Dimethyl phthalate	33.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	66.2	10-120			
Di-n-butyl phthalate	46.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.9	10-120			
Di-n-octyl phthalate	43.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	86.3	10-146			
Fluoranthene	49.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	98.4	26-137			
Fluorene	39.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.0	59-121			
Hexachlorobenzene	34.6 ug/L	1.00	ug/L	50.0	<1.00 ug/L	69.2	10-152			
Hexachlorobutadiene	35.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.3	24-120			
Hexachlorocyclopentadiene	19.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	39.7	10-90			
Hexachloroethane	27.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	55.3	40-120			
Indeno (1,2,3-cd) pyrene	35.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.4	10-171			
Isophorone	23.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	47.8	21-196			
Naphthalene	29.8 ug/L	5.00	ug/L	50.0	<5.00 ug/L	59.5	21-133			
Nitrobenzene	35.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	71.8	35-180			
n-Nitrosodimethylamine	15.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	30.1	10-85			
n-Nitrosodi-n-propylamine	35.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.9	10-230			
n-Nitrosodiphenylamine	31.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	62.9	12-111			
p-Chloro-m-cresol	31.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	62.4	10-127			
Pentachlorophenol	35.5 ug/L	20.0	ug/L	50.0	<20.0 ug/L	71.1	14-176			



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike (BHA1042-MS2)

Source: 24A1504-02

Prepared & Analyzed: 01/30/2024

Phenanthrene	46.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	92.8	54-120			
Phenol	12.3 ug/L	10.0	ug/L	50.5	<10.0 ug/L	24.3	10-120			
Pyrene	33.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.8	52-120			
Pyridine	17.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	34.6	10-110			
<hr style="border-top: 1px dashed black;"/>										
Surr: 2,4,6-Tribromophenol (Surr)	81.7		ug/L	100	ug/L	81.7	5-136			
Surr: 2-Fluorobiphenyl (Surr)	35.8		ug/L	50.0	ug/L	71.5	9-117			
Surr: 2-Fluorophenol (Surr)	38.5		ug/L	100	ug/L	38.5	5-60			
Surr: Nitrobenzene-d5 (Surr)	35.4		ug/L	50.0	ug/L	70.8	5-151			
Surr: Phenol-d5 (Surr)	27.4		ug/L	100	ug/L	27.4	5-60			
Surr: p-Terphenyl-d14 (Surr)	33.0		ug/L	50.0	ug/L	65.9	5-141			

Matrix Spike Dup (BHA1042-MSD1)

Source: 24A1484-03

Prepared & Analyzed: 01/30/2024

1,2,4-Trichlorobenzene	33.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.0	44-142	19.2	20	
1,2-Dichlorobenzene	27.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	55.2	22-115	17.0	20	
1,3-Dichlorobenzene	25.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	51.8	22-112	17.3	20	
1,4-Dichlorobenzene	31.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	62.8	13-112	17.1	20	
2,4,6-Trichlorophenol	46.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	92.7	37-144	1.69	20	
2,4-Dichlorophenol	40.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	80.0	39-135	3.00	20	
2,4-Dimethylphenol	35.6 ug/L	5.00	ug/L	50.0	<5.00 ug/L	71.2	32-120	2.58	20	
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	91.3	39-139	2.30	20	
2,4-Dinitrotoluene	41.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.3	10-191	2.35	20	
2,6-Dinitrotoluene	33.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.5	50-158	1.25	20	
2-Chloronaphthalene	35.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.8	60-120	9.29	20	
2-Chlorophenol	31.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	62.7	23-134	1.89	20	
2-Nitrophenol	32.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.7	29-182	2.29	20	
3,3'-Dichlorobenzidine	37.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	74.3	10-262	4.82	20	
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	91.1	10-181	1.68	20	
4-Bromophenyl phenyl ether	39.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.8	53-127	0.662	20	
4-Chlorophenyl phenyl ether	40.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.5	25-158	0.615	20	
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	33.6	10-132	4.59	20	
Acenaphthene	36.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	72.6	47-145	4.34	20	
Acenaphthylene	39.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.7	33-145	3.08	20	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton
 8382 Terminal Rd, Bay B
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike Dup (BHA1042-MSD1)	Source: 24A1484-03			Prepared & Analyzed: 01/30/2024						
Acetophenone	37.8 ug/L	20.0	ug/L	50.0	<20.0 ug/L	75.6	0-200	0.211	20	
Anthracene	34.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	68.6	27-133	2.34	20	
Benzo (a) anthracene	41.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.6	33-143	2.08	20	
Benzo (a) pyrene	48.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	96.8	17-163	1.01	20	
Benzo (b) fluoranthene	44.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	89.4	24-159	0.535	20	
Benzo (g,h,i) perylene	32.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	64.3	10-219	11.3	20	
Benzo (k) fluoranthene	35.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	71.7	11-162	0.111	20	
bis (2-Chloroethoxy) methane	32.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.6	33-184	1.90	20	
bis (2-Chloroethyl) ether	30.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	60.7	12-158	1.54	20	
2,2'-Oxybis (1-chloropropane)	30.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.3	36-166	1.84	20	
bis (2-Ethylhexyl) phthalate	28.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	56.8	10-158	4.20	20	
Butyl benzyl phthalate	32.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.3	10-152	1.64	20	
Chrysene	35.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.4	17-169	2.19	20	
Dibenz (a,h) anthracene	42.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	84.0	10-227	9.61	20	
Diethyl phthalate	43.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	87.0	10-120	1.23	20	
Dimethyl phthalate	37.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.0	10-120	1.78	20	
Di-n-butyl phthalate	41.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.7	10-120	3.89	20	
Di-n-octyl phthalate	41.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.4	10-146	0.650	20	
Fluoranthene	46.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.6	26-137	0.257	20	
Fluorene	43.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	86.6	59-121	1.10	20	
Hexachlorobenzene	37.1 ug/L	1.00	ug/L	50.0	<1.00 ug/L	74.1	10-152	0.0540	20	
Hexachlorobutadiene	38.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	77.2	24-120	23.8	20	P
Hexachlorocyclopentadiene	26.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	52.3	10-90	12.2	20	
Hexachloroethane	31.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	63.3	40-120	20.0	20	P
Indeno (1,2,3-cd) pyrene	39.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.8	10-171	10.9	20	
Isophorone	26.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	52.4	21-196	0.344	20	
Naphthalene	34.1 ug/L	5.00	ug/L	50.0	<5.00 ug/L	68.1	21-133	21.0	20	P
Nitrobenzene	41.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.0	35-180	3.04	20	
n-Nitrosodimethylamine	16.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	33.1	10-85	8.43	20	
n-Nitrosodi-n-propylamine	40.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.5	10-230	1.46	20	
n-Nitrosodiphenylamine	34.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	69.8	12-111	0.489	20	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike Dup (BHA1042-MSD1)	Source: 24A1484-03			Prepared & Analyzed: 01/30/2024						
p-Chloro-m-cresol	33.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.3	10-127	2.20	20	
Pentachlorophenol	32.5 ug/L	20.0	ug/L	50.0	<20.0 ug/L	65.0	14-176	2.49	20	
Phenanthrene	45.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	91.2	54-120	2.45	20	
Phenol	12.8 ug/L	10.0	ug/L	50.5	<10.0 ug/L	25.3	10-120	0.779	20	
Pyrene	32.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	64.5	52-120	4.40	20	
Pyridine	23.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	46.7	10-110	0.598	20	
<hr style="border-top: 1px dashed black;"/>										
Surr: 2,4,6-Tribromophenol (Surr)	81.8		ug/L	100	ug/L	81.8	5-136			
Surr: 2-Fluorobiphenyl (Surr)	39.8		ug/L	50.0	ug/L	79.5	9-117			
Surr: 2-Fluorophenol (Surr)	39.7		ug/L	100	ug/L	39.7	5-60			
Surr: Nitrobenzene-d5 (Surr)	40.2		ug/L	50.0	ug/L	80.3	5-151			
Surr: Phenol-d5 (Surr)	28.6		ug/L	100	ug/L	28.6	5-60			
Surr: p-Terphenyl-d14 (Surr)	29.7		ug/L	50.0	ug/L	59.3	5-141			

Matrix Spike Dup (BHA1042-MSD2)	Source: 24A1504-02			Prepared & Analyzed: 01/30/2024						
1,2,4-Trichlorobenzene	34.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	68.9	44-142	13.7	20	
1,2-Dichlorobenzene	28.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	56.8	22-115	16.0	20	
1,3-Dichlorobenzene	25.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	51.8	22-112	14.8	20	
1,4-Dichlorobenzene	33.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.2	13-112	13.7	20	
2,4,6-Trichlorophenol	51.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	103	37-144	14.4	20	
2,4-Dichlorophenol	42.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	84.2	39-135	11.4	20	
2,4-Dimethylphenol	37.0 ug/L	5.00	ug/L	50.0	<5.00 ug/L	73.9	32-120	12.6	20	
2,4-Dinitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	92.8	39-139	14.8	20	
2,4-Dinitrotoluene	42.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	85.5	10-191	13.0	20	
2,6-Dinitrotoluene	35.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	71.0	50-158	13.9	20	
2-Chloronaphthalene	36.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	73.8	60-120	14.4	20	
2-Chlorophenol	32.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.1	23-134	12.9	20	
2-Nitrophenol	34.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	68.6	29-182	11.8	20	
3,3'-Dichlorobenzidine	21.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	42.5	10-262	10.8	20	
4,6-Dinitro-2-methylphenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	88.4	10-181	8.24	20	
4-Bromophenyl phenyl ether	42.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	84.2	53-127	14.3	20	
4-Chlorophenyl phenyl ether	41.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	83.1	25-158	12.5	20	
4-Nitrophenol	<50.0 ug/L	50.0	ug/L	50.0	<50.0 ug/L	39.4	10-132	5.05	20	



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Certificate of Analysis

Final Report

Client Name: Total Environmental Concepts-Lorton Date Issued: January 31, 2024 17:02
 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike Dup (BHA1042-MSD2)

Source: 24A1504-02

Prepared & Analyzed: 01/30/2024

Acenaphthene	38.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	77.1	47-145	13.5	20	
Acenaphthylene	40.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	80.4	33-145	14.3	20	
Acetophenone	37.3 ug/L	20.0	ug/L	50.0	<20.0 ug/L	74.7	0-200	14.0	20	
Anthracene	39.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	78.0	27-133	16.0	20	
Benzo (a) anthracene	44.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	89.0	33-143	4.65	20	
Benzo (a) pyrene	50.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	100	17-163	6.89	20	
Benzo (b) fluoranthene	48.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	97.1	24-159	6.46	20	
Benzo (g,h,i) perylene	32.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.1	10-219	9.43	20	
Benzo (k) fluoranthene	40.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	80.3	11-162	17.1	20	
bis (2-Chloroethoxy) methane	33.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	67.2	33-184	13.4	20	
bis (2-Chloroethyl) ether	30.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	61.4	12-158	12.5	20	
2,2'-Oxybis (1-chloropropane)	29.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	59.9	36-166	10.2	20	
bis (2-Ethylhexyl) phthalate	32.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	65.0	10-158	5.43	20	
Butyl benzyl phthalate	34.4 ug/L	10.0	ug/L	50.0	<10.0 ug/L	68.9	10-152	3.88	20	
Chrysene	37.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.7	17-169	3.85	20	
Dibenz (a,h) anthracene	40.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.0	10-227	7.05	20	
Diethyl phthalate	43.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	87.1	10-120	14.3	20	
Dimethyl phthalate	38.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.9	10-120	13.7	20	
Di-n-butyl phthalate	47.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	93.9	10-120	0.0639	20	
Di-n-octyl phthalate	46.2 ug/L	10.0	ug/L	50.0	<10.0 ug/L	92.3	10-146	6.76	20	
Fluoranthene	55.9 ug/L	10.0	ug/L	50.0	<10.0 ug/L	112	26-137	12.8	20	
Fluorene	44.5 ug/L	10.0	ug/L	50.0	<10.0 ug/L	89.0	59-121	13.2	20	
Hexachlorobenzene	40.1 ug/L	1.00	ug/L	50.0	<1.00 ug/L	80.2	10-152	14.7	20	
Hexachlorobutadiene	40.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	80.6	24-120	13.6	20	
Hexachlorocyclopentadiene	23.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	47.1	10-90	17.2	20	
Hexachloroethane	31.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	63.5	40-120	13.7	20	
Indeno (1,2,3-cd) pyrene	37.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	75.7	10-171	7.26	20	
Isophorone	27.1 ug/L	10.0	ug/L	50.0	<10.0 ug/L	54.2	21-196	12.5	20	
Naphthalene	35.1 ug/L	5.00	ug/L	50.0	<5.00 ug/L	70.1	21-133	16.3	20	
Nitrobenzene	40.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.5	35-180	12.7	20	
n-Nitrosodimethylamine	15.7 ug/L	10.0	ug/L	50.0	<10.0 ug/L	31.3	10-85	3.97	20	



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Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BHA1042 - SW3510C/EPA600-MS

Matrix Spike Dup (BHA1042-MSD2)	Source: 24A1504-02			Prepared & Analyzed: 01/30/2024						
n-Nitrosodi-n-propylamine	40.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	81.1	10-230	13.5	20	
n-Nitrosodiphenylamine	35.6 ug/L	10.0	ug/L	50.0	<10.0 ug/L	71.2	12-111	12.4	20	
p-Chloro-m-cresol	35.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	70.0	10-127	11.5	20	
Pentachlorophenol	40.3 ug/L	20.0	ug/L	50.0	<20.0 ug/L	80.6	14-176	12.6	20	
Phenanthrene	55.0 ug/L	10.0	ug/L	50.0	<10.0 ug/L	110	54-120	17.0	20	
Phenol	13.5 ug/L	10.0	ug/L	50.5	<10.0 ug/L	26.7	10-120	9.46	20	
Pyrene	36.3 ug/L	10.0	ug/L	50.0	<10.0 ug/L	72.5	52-120	6.70	20	
Pyridine	21.8 ug/L	10.0	ug/L	50.0	<10.0 ug/L	43.7	10-110	23.2	20	P

Surr: 2,4,6-Tribromophenol (Surr)	91.9		ug/L	100	ug/L	91.9	5-136			
Surr: 2-Fluorobiphenyl (Surr)	41.3		ug/L	50.0	ug/L	82.5	9-117			
Surr: 2-Fluorophenol (Surr)	41.9		ug/L	100	ug/L	41.9	5-60			
Surr: Nitrobenzene-d5 (Surr)	39.4		ug/L	50.0	ug/L	78.8	5-151			
Surr: Phenol-d5 (Surr)	29.5		ug/L	100	ug/L	29.5	5-60			
Surr: p-Terphenyl-d14 (Surr)	34.9		ug/L	50.0	ug/L	69.7	5-141			



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
1,1-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2,4-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dibromoethane (EDB)	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,PADEP,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,3,5-Trimethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
1,3-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,PADEP,WVDEP
2,2-Dichloropropane	VELAP,NCDEQ,PADEP,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,PADEP,WVDEP
2-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,PADEP,WVDEP
4-Chlorotoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Isopropyltoluene	VELAP,NCDEQ,PADEP,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,PADEP,WVDEP
Acetone	VELAP,NCDEQ,PADEP,WVDEP
Benzene	VELAP,NCDEQ,PADEP,WVDEP
Bromobenzene	VELAP,NCDEQ,PADEP,WVDEP
Bromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromodichloromethane	VELAP,NCDEQ,PADEP,WVDEP
Bromoform	VELAP,NCDEQ,PADEP,WVDEP
Bromomethane	VELAP,NCDEQ,PADEP,WVDEP
Carbon disulfide	VELAP,NCDEQ,PADEP,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,PADEP,WVDEP
Chlorobenzene	VELAP,NCDEQ,PADEP,WVDEP



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Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,PADEP,WVDEP
Chloroform	VELAP,NCDEQ,PADEP,WVDEP
Chloromethane	VELAP,NCDEQ,PADEP,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Dibromochloromethane	VELAP,NCDEQ,PADEP,WVDEP
Dibromomethane	VELAP,NCDEQ,PADEP,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Di-isopropyl ether (DIPE)	VELAP,NCDEQ,PADEP,WVDEP
Ethylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Hexachlorobutadiene	VELAP,NCDEQ,PADEP,WVDEP
Iodomethane	VELAP,NCDEQ,PADEP,WVDEP
Isopropylbenzene	VELAP,NCDEQ,PADEP,WVDEP
m+p-Xylenes	VELAP,NCDEQ,PADEP,WVDEP
Methylene chloride	VELAP,NCDEQ,PADEP,WVDEP
Methyl-t-butyl ether (MTBE)	VELAP,NCDEQ,PADEP,WVDEP
Naphthalene	VELAP,NCDEQ,PADEP,WVDEP
n-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
n-Propylbenzene	VELAP,NCDEQ,PADEP,WVDEP
o-Xylene	VELAP,NCDEQ,PADEP,WVDEP
sec-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Styrene	VELAP,NCDEQ,PADEP,WVDEP
tert-Butylbenzene	VELAP,NCDEQ,PADEP,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,PADEP,WVDEP
Toluene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,PADEP,WVDEP
Trichloroethylene	VELAP,NCDEQ,PADEP,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,PADEP,WVDEP
Vinyl acetate	VELAP,NCDEQ,PADEP,WVDEP
Vinyl chloride	VELAP,NCDEQ,PADEP,WVDEP
Xylenes, Total	VELAP,NCDEQ,PADEP,WVDEP
SW8270E in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,2-Diphenylhydrazine	NCDEQ,WVDEP,VELAP,PADEP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP

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Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release		

Certified Analyses included in this Report

Analyte	Certifications
1,3-Dinitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
1-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2,3,4,6-Tetrachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,5-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4,6-Trichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dimethylphenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrophenol	NCDEQ,WVDEP,VELAP,PADEP
2,4-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dichlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2,6-Dinitrotoluene	NCDEQ,WVDEP,VELAP,PADEP
2-Chloronaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Chlorophenol	NCDEQ,WVDEP,VELAP,PADEP
2-Methylnaphthalene	NCDEQ,WVDEP,VELAP,PADEP
2-Naphthylamine	NCDEQ,WVDEP,VELAP,PADEP
2-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
2-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
3,3'-Dichlorobenzidine	NCDEQ,WVDEP,VELAP,PADEP
3-Methylcholanthrene	NCDEQ,WVDEP,VELAP,PADEP
3-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4,6-Dinitro-2-methylphenol	NCDEQ,WVDEP,VELAP,PADEP
4-Aminobiphenyl	NCDEQ,WVDEP,VELAP,PADEP
4-Bromophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Chloroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Chlorophenyl phenyl ether	NCDEQ,WVDEP,VELAP,PADEP
4-Nitroaniline	NCDEQ,WVDEP,VELAP,PADEP
4-Nitrophenol	NCDEQ,WVDEP,VELAP,PADEP
7,12-Dimethylbenz (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthene	NCDEQ,WVDEP,VELAP,PADEP
Acenaphthylene	NCDEQ,WVDEP,VELAP,PADEP
Acetophenone	NCDEQ,WVDEP,VELAP,PADEP
Aniline	NCDEQ,WVDEP,VELAP,PADEP
Anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzidine	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (a) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (b) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP



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 8382 Terminal Rd, Bay B Project Number: [none]
 Purchase Order:
 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Certified Analyses included in this Report

Analyte	Certifications
Benzo (g,h,i) perylene	NCDEQ,WVDEP,VELAP,PADEP
Benzo (k) fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Benzoic acid	NCDEQ,WVDEP,VELAP,PADEP
Benzyl alcohol	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethoxy) methane	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Chloroethyl) ether	NCDEQ,WVDEP,VELAP,PADEP
2,2'-Oxybis (1-chloropropane)	NCDEQ,WVDEP,VELAP,PADEP
bis (2-Ethylhexyl) phthalate	NCDEQ,WVDEP,VELAP,PADEP
Butyl benzyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Chrysene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,h) anthracene	NCDEQ,WVDEP,VELAP,PADEP
Dibenz (a,j) acridine	NCDEQ,WVDEP,VELAP,PADEP
Dibenzofuran	NCDEQ,WVDEP,VELAP,PADEP
Diethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Dimethyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-butyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Di-n-octyl phthalate	NCDEQ,WVDEP,VELAP,PADEP
Diphenylamine	NCDEQ,WVDEP,VELAP,PADEP
Ethyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Fluoranthene	NCDEQ,WVDEP,VELAP,PADEP
Fluorene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobenzene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorobutadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachlorocyclopentadiene	NCDEQ,WVDEP,VELAP,PADEP
Hexachloroethane	NCDEQ,WVDEP,VELAP,PADEP
Indeno (1,2,3-cd) pyrene	NCDEQ,WVDEP,VELAP,PADEP
Isophorone	NCDEQ,WVDEP,VELAP,PADEP
m+p-Cresols	NCDEQ,WVDEP,VELAP,PADEP
Methyl methanesulfonate	NCDEQ,WVDEP,VELAP,PADEP
Naphthalene	NCDEQ,WVDEP,VELAP,PADEP
Nitrobenzene	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodimethylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-butylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodi-n-propylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosodiphenylamine	NCDEQ,WVDEP,VELAP,PADEP
n-Nitrosopiperidine	NCDEQ,WVDEP,VELAP,PADEP
o+m+p-Cresols	NCDEQ,WVDEP,VELAP
o-Cresol	NCDEQ,WVDEP,VELAP,PADEP



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Certificate of Analysis

Final Report

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 Lorton VA, 22079
 Submitted To: Shanna Hryvniak
 Client Site I.D.: State Lead - Coopers Cove Petroleum Release

Date Issued: January 31, 2024 17:02
 Project Number: [none]
 Purchase Order:

Certified Analyses included in this Report

Analyte	Certifications
p-(Dimethylamino) azobenzene	NCDEQ,WVDEP,VELAP,PADEP
p-Chloro-m-cresol	NCDEQ,WVDEP,VELAP,PADEP
Pentachloronitrobenzene (quintozene)	NCDEQ,WVDEP,VELAP,PADEP
Pentachlorophenol	NCDEQ,WVDEP,VELAP,PADEP
Phenacetin	NCDEQ,WVDEP,VELAP,PADEP
Phenanthrene	NCDEQ,WVDEP,VELAP,PADEP
Phenol	NCDEQ,WVDEP,VELAP,PADEP
Pronamide	NCDEQ,WVDEP,VELAP,PADEP
Pyrene	NCDEQ,WVDEP,VELAP,PADEP
Pyridine	NCDEQ,WVDEP,VELAP,PADEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2024
NCDEQ	North Carolina DEQ	495	12/31/2024
NCDOH	North Carolina Department of Health	51714	07/31/2024
NYDOH	New York DOH Drinking Water	12069	04/01/2024
PADEP	NELAP-Pennsylvania Certificate #009	68-03503	10/31/2024
SCDHEC	South Carolina Dept of Health and Environmental	93016	06/14/2024
TXCEQ	Texas Comm on Environmental Quality #T104704	T104704576	05/31/2024
VELAP	NELAP-Virginia Certificate #12617	460021	06/14/2024
WVDEP	West Virginia DEP	350	11/30/2024



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Date Issued: January 31, 2024 17:02
Project Number: [none]
Purchase Order:

Summary of Data Qualifiers

C Continuing calibration verification response for this analyte is outside specifications.

L LCS recovery is outside of established acceptance limits

P Duplicate analysis does not meet the acceptance criteria for precision

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: *Totol Environmental Concepts*
 CONTACT: *Shanna Hryvniak*
 ADDRESS: *8382 Terminal Rd. Lorton, VA*
 PHONE #: *804.387-7983*
 FAX #: *N/A*
 EMAIL: *shryvniak@tec.com*

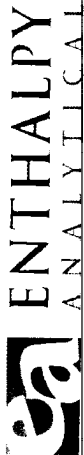
INVOICE TO: *same*
 INVOICE CONTACT: *Shanna Hryvniak*
 INVOICE ADDRESS: *same*
 INVOICE PHONE #: *703-567-4346*
 PROJECT NAME/Quote #: *Coopers Cove Rd*
 SITE NAME: *Coopers Cove Rd. Hardy, VA*
 PROJECT NUMBER: *4760155-001*
 P.O. #: *4260155-001*
 Pretreatment Program: *No*

Is sample for compliance reporting? YES NO
 Is sample from a chlorinated supply? YES NO
 PWS I.D. #: _____
 SAMPLER NAME (PRINT): *David C. Dudley*
 SAMPLER SIGNATURE: *[Signature]*
 Turn Around Time: Circle 10 5 Days or 3 Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OP=Organic A=Air WP=Wipe O=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		COMMENTS
											Preservative Codes: N=Nitric Acid, C=Hydrochloric Acid, H=Hydrochloric Acid, H=Sulfuric Acid, H=Sodium Hydroxide, A=Ascorbic Acid, Z=Zinc Acetate, T=Sodium Thiosulfate, M=Methanol	PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)	
1) <i>D. Horn</i>	<input checked="" type="checkbox"/>					1-25-24 9:45	9:45	6W		4	8270		<i>"DEQ states lead Rates"</i>
2) <i>G. Colson</i>	<input checked="" type="checkbox"/>					1-25-24 10:25	10:25	6W		4	8260		
3) <i>T. Throckmorton</i>	<input checked="" type="checkbox"/>					1-25-24 11:00	11:00	6W		4			
4)													
5) <i>L. Belderes</i>	<input checked="" type="checkbox"/>					1-25-24 12:05	12:05	6W		4			
6)													
7) <i>G. Metcalfe</i>	<input checked="" type="checkbox"/>					1-25-24 2:15	2:15	6W		4			
8)													
9) <i>A. Haberer</i>	<input checked="" type="checkbox"/>					1-25-24 4:36	4:36	6W		4			
10)													

RELINQUISHED: *[Signature]* DATE / TIME: *1-26-24 1:57*
 RECEIVED: *[Signature]* DATE / TIME: *1-26-24 1:35*
 LAB USE ONLY Therm ID: *358* COOLER TEMP: *5.2* °C
 Custody Seals used and intact? (Y/N) *(Y)*
 TEC-Springfield 24A1569
 State Lead - Coopers Cove Petrolet
 Recd: 01/26/2024 Due: 01/31/2024



Sample Preservation Log

Order ID: 24A1569

Date Performed: 1-26-24

Analyst Performing Check: RCJ

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (608/609/508) PCB DW only		SVOC (625/627/628)		CrVI + **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	Final pH	pH as Received	Final pH	Other	Final pH	Other
01	A																													
02	A																													
03	A																													
04	A																													
05	A																													
06	A																													

NaOH ID: _____ HNO3 ID: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____
 HCL ID: _____ Na2SO3 ID: _____
 CrVI preserved date/time: _____
 * pH must be adjusted between 9.3 - 9.7
 Ammonia Buffer Sol'n ID: _____
 5N NaOH ID: _____

*We verify certifies DISS CrVI and not T. CrVI as an approved analyte under 40CFR136 for waste water.



1941 Reymet Road • Richmond, Virginia 23230 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Client Name:	Total Environmental Concepts-Lorton 8382 Terminal Rd, Bay B Lorton VA, 22079	Date Issued:	January 31, 2024 17:02
Submitted To:	Shanna Hryvniak	Project Number:	[none]
Client Site I.D.:	State Lead - Coopers Cove Petroleum Release	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	5.20°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis. In addition, field parameters are always received outside holding time and will be marked accordingly.	Yes

Shanna Hryvniak notified via email for samples being recieved with trip blanks that were not indicated on the chain of custody. KRC 1/26/24 1622