March 22, 2024

Ms. Lisa Dunning
Task Order Contracting Officer's Representative
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: Contract No. 68HERH19D0018; Task Order No. 68E0719F0190
Elkem Carbide
365 Carbide Lane, Keokuk, Lee County, Iowa
Phase II Environmental Site Assessment

Dear Ms. Dunning:

Toeroek Associates, Inc. (Toeroek) and our teaming subcontractor, Tetra Tech, Inc. (Tetra Tech), (hereafter "Toeroek Team") are pleased to present the final Phase II Environmental Site Assessment (ESA) report regarding the southern and western portions of the Elkem Carbide site at 365 Carbide Lane in Keokuk, Lee County, Iowa.

This deliverable has been reviewed internally as part of Tetra Tech's quality assurance program, as well as Toeroek's quality assurance program, and is consistent with Toeroek's Quality Management Plan for the Resource Conservation and Recovery Act (RCRA) Enforcement and Permitting Assistance (REPA) contract. Documentation of this review is retained in the Toeroek Team's project files.

If you have any questions or comments, please contact Greg Hanna at 720-898-4102 or Kaitlyn Mitchell at 816-412-1742.

Sincerely,

Kaitlyn Mitchell

Greg Hanna
Toeroek Team Program Manager

Kaitlyn Mitchell
Toeroek Team Project Manager

Enclosure: Phase II ESA

cc: James Arnold, EPA Region 7
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TARGETED BROWNFIELDS ASSESSMENT
PHASE II ENVIRONMENTAL SITE ASSESSMENT

ELKEM CARBIDE
365 CARBIDE LANE
KEOKUK, LEE COUNTY, IOWA

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 7

Task Order	:	68E0719F0190
Subtask	:	16.03
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Toeroek Associates, Inc. (Toeroek) and its teaming subcontractor, Tetra Tech, Inc. (Tetra Tech), (hereafter "Toeroek Team") with providing technical support to the EPA Region 7 Brownfields Program under Contract Number (No.) 68HERH19D0018, Task Order (TO) No. 68E0719F0190. EPA Region 7 requested the Toeroek Team conduct a Phase II Environmental Site Assessment (ESA) as part of a Targeted Brownfields Assessment (TBA) of the southern and western portions of the Elkem Carbide property (the "Site") at 365 Carbide Lane in Keokuk, Lee County, Iowa (Appendix A, Figure 1). Although the central portion of Elkem Carbide property had previously been investigated for environmental conditions, the southern and western portions of the property had not; these areas were the focus of this Phase II ESA.

The Toeroek Team developed this Phase II ESA in accordance with the Toeroek Team Quality Assurance Project Plan (QAPP) approved by EPA on September 18, 2023 (Toeroek Team 2023) developed after review of the following sources regarding the central portion of the property:

- Phase I ESA in July 2009 by Terracon Consultants, Inc. (Terracon 2009);
- Phase II ESA in April 2010 by Terracon (Terracon 2010);
- Phase I TBA in March 2016 by Tetra Tech (Tetra Tech 2016a);
- Phase II TBA in September 2016 by Tetra Tech (Tetra Tech 2016b);
- Phase I ESA in November 2020 by Impact 7G (Impact) (Impact 2020);
- Phase II ESA of Lots #1 through #6 in April 2022 by Impact (Impact 2022a);
- Phase II ESA of Lots #7 through #15 in July 2022 by Impact (Impact 2022b); and
- TBA Application submitted to EPA by the City of Keokuk, Iowa (City of Keokuk 2022).

The City of Keokuk currently owns the Site. According to the Brownfields Assessment Application (City of Keokuk 2022), the City of Keokuk has shown an interest in redeveloping the Site, and future anticipated land use is industrial/light industrial business, contingent on findings from this Phase II ESA.

The scope of this Phase II ESA included collection of surface and subsurface soil, groundwater, surface water, and sediment samples to confirm or eliminate recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs) identified during the multiple previous investigations at the Site. Groundwater was not encountered and; therefore, was not sampled, as described in Section 3.0.

This Phase II ESA report is consistent with ASTM International (ASTM) Standard E1903-19 for Phase II ESAs, and otherwise complies with EPA's "All Appropriate Inquiries" Rule (Title 40 *Code of Federal Regulations* [40 CFR] Part 312).

1.1 PURPOSE

Purposes of this Phase II ESA were to: (1) confirm or eliminate RECs and HRECs identified during previous Phase I ESAs; (2) acquire information regarding the nature of contamination (if present) and risks posed by that contamination that would support informed business decisions about the Site; and (3) where applicable, satisfy the innocent purchaser defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

1.2 SPECIAL TERMS AND CONDITIONS

No special terms or conditions were identified during this Phase II ESA.

2.0 BACKGROUND AND SITE HISTORY

This section specifies the location of the Site and Site features, conveys the physical setting, recounts the history of the Site, discusses land uses at the Site and adjacent properties, and describes results of previous investigations.

2.1 SITE DESCRIPTION AND FEATURES

The Site is depicted on the Keokuk, Iowa, U.S. Geological Survey (USGS) 7.5-minute topographic series map (USGS 1975) (Appendix A, Figure 1). Global Positioning System (GPS) coordinates at the approximate center of the Site are 40.4196 degrees north latitude and 91.421064 degrees west longitude. The Site encompasses approximately 26 acres of a larger 79-acre parcel of land. Figure 2 in Appendix A illustrates the Site boundaries.

The Elkem Carbide property historically was used for zinc refining and manufacture of various carbide products from at least 1915 to 2007. It has been vacant since 2008. The larger Elkem Carbide property currently hosts multiple buildings and additions along with grass-covered and wooded land. However, except for presence of the approximately 30,000-square foot foundry building on the southwest portion of the Elkem Carbide property, the southern and western portions of the Elkem Carbide property that include the Site investigated during this Phase II are vacant (Impact 2022a, b). These vacant portions constitute the Site.

The Site is within an area characterized by mixed land use including industrial, commercial, agricultural, and residential properties, with the nearest residence approximately 250 feet to the southeast.

2.2 PHYSICAL SETTING

The Site is zoned for industrial use and is near the northwestern city limits of the City of Keokuk. The Site is bounded north by Carbide Lane and portions of the larger Elkem Carbide property, with undeveloped land and Amsted Rail beyond; east by vacant land and Keokuk Animal Services, with Soap Creek, railroad tracks, Newberry Towing and Recovery, and industrial and commercial development beyond; south by wooded, undeveloped land, with agricultural land and Seither & Cherry (mechanical contractors), McDowell Crane, Tri-State Sheet Metal, and the former Archer Daniels Midland Milling Company plant (closed in 2022 and purchased by Twin Rivers Storage) beyond; and west by U.S. Highway 61, with undeveloped land and Hog Thief Creek beyond.

2.2.1 Geologic Setting

Soils at the Site consist of Weller silt loam with 5 to 9 percent slopes, Ashgrove silt loam with 9 to 14 percent slopes, Pershing silt loam with 2 to 5 percent slopes, Lindley loam, and Orthents (loamy) (U.S. Department of Agriculture [USDA] 2023). The dominant soils in the area are Weller extremely fine-grained silt loam. The Weller series consists of moderately well-drained soils with moderately fine textures. These soils generally have slow infiltration rates with soil layers impeding downward movement of water. All loamy soils were formed in glacial till.

The St. Louis and Pellow formation underlies the glacial soils and consists of middle to upper Mississippian carbonates with minor sand and siltstone layers (USGS 2024).

2.2.2 Hydrogeology

The Site is within the Flint-Henderson watershed and is underlain by three aquifers: (1) the Mississippian aquifer, consisting primarily of dolomite in the Site area (southeastern Iowa); (2) the Silurian-Devonian aquifer beneath, which are of dolomite and limestone ranging from approximately 200 to 400 feet thick; and (3) the Cambrian-Ordovician aquifer beneath, which are multiple bedrock formations ranging from approximately 300 to 2,000 feet thick (USGS 2009).

The hydrologic gradient at the Site is not known but is inferred to be parallel to the topographic gradient, which primarily slopes to the east-southeast. In the absence of site-specific data or other indicators, the direction of groundwater flow direction has been inferred from the regional topography to be to the east-southeast. Actual groundwater flow direction can be determined only by acquisition of site-specific groundwater elevation data.

The Elkem Carbide property obtains potable water from the City of Keokuk potable water system, which is sourced from surface water intakes on the Mississippi River. No private wells are on the Elkem Carbide property. According to the Phase I ESA completed by Impact in 2020, one well within 1,000 feet of the Elkem Carbide property was listed on the Iowa Department of Natural Resources (IDNR) Facility Explorer Well Report Database (Impact 2020).

2.2.3 Hydrology

The Site is generally flat with an elevation of approximately 650 feet above mean sea level. Slopes at the Site are to the west with drainage flowing into Hog Thief Creek. Hog Thief Creek flows west and then

south into the Des Moines River, which flows east into the Mississippi River approximately 2.75 miles south of the Site.

2.2.4 Meteorology

Annual average rainfall in Keokuk, Iowa, is approximately 39.2 inches. Average summer temperature highs are around 85 degrees Fahrenheit (°F). Average winter lows are around 19° F (U.S. Climate Data 2023).

2.3 SITE HISTORY AND LAND USE

Currently, the larger Elkem Carbide property hosts nine vacant structures formerly used to manufacture carbide products. Historical documentation indicates that the Elkem Carbide property was converted from farm use to industrial manufacturing in 1915, when a secondary zinc smelter was constructed by River Smelting and Refining Company, a subsidiary of National Lead Company. The smelter operated until around 1919. Before the smelter closed, a Frary metal plant was constructed in 1916 by United Lead, also a subsidiary of National Lead Company. Frary metal is a lead alloy hardened by calcium and barium. In 1919, smelting operations ceased and shifted to ball bearing production.

In 1929, the United Lead Company merged with Shawinigan Products to form Midwest Carbide Corporation (Midwest Carbide), and operations shifted to calcium carbide production (Terracon 2009). In 1952, Midwest Carbide reportedly began production of Soderberg electrode paste by combining calcinated anthracite coal with coal tar pitch (Terracon 2009).

In the late 1980s, the calcium carbide production was shut down, and EPA proposed a closure plan for the Drum Storage and Carbide Waste Landfill site (identified as the landfill on Figure 2 in Appendix A). In 2007, production of all other products ceased (Terracon 2009), and the Elkem Carbide property was left idle. Carbide Lane Properties, LLC purchased the Elkem Carbide property from Elkem Metals Company in 2008, which was then sold to 365 Carbide Lane in 2015. In 2021, the Elkem Carbide property was condemned by the City of Keokuk. Observations made during Phase II fieldwork activities in November 2023 confirm the Elkem Carbide property is currently vacant.

2.4 ADJACENT PROPERTY USE

Current and past uses of the surrounding area have been residential, commercial, and industrial since at least 1915 (Tetra Tech 2016a). The Site is bounded north by Carbide Lane and portions of the larger Elkem Carbide property, with undeveloped land and Amsted Rail beyond; east by vacant land and Keokuk Animal

Services, with Soap Creek, railroad tracks, Newberry Towing and Recovery, and industrial and commercial development beyond; south by wooded, undeveloped land, with agricultural land and Seither & Cherry (mechanical contractors), McDowell Crane, Tri-State Sheet Metal, and former Archer Daniels Midland Milling Company plant (closed in 2022 and purchased by Twin Rivers Storage) beyond; and west by U.S. Highway 61, with undeveloped land and Hog Thief Creek beyond.

2.5 SUMMARY OF PREVIOUS ASSESSMENTS

Data from previous investigations are included in the Phase I ESA report completed by Impact in November 2020 (Impact 2020) and the Phase I ESA prepared by the Toeroek Team in 2024. Previous investigations at the larger Elkem Carbide property did not include the areas south and west of the manufacturing area, which constitute the Site.

The 2024 Phase I ESA, conducted concurrently with this Phase II ESA, identified a secondary zinc smelter and a Frary metal production plant on the larger Elkem Carbide property as RECs. A foundry building is in the southwestern corner of the Site. During the 2024 Phase I ESA, an overturned hydraulic oil container was observed near the exterior of the foundry building along with significant surface staining in the vicinity of the container. Interview documentation from the 2016 Tetra Tech Phase I ESA revealed that the lower elevation areas on the west side of the Site were historically used for the dumping of waste materials (Tetra Tech 2016a).

3.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT ACTIVITIES

The following subsections describe the scope, field exploration, and methods implemented during this Phase II ESA. From November 7 through 10, 2023, Toeroek Team members Macy LaMasney and Geoffrey Jay conducted soil, surface water, and sediment sampling at the Site. The Toeroek Team also conducted a concurrent hazardous materials survey of the foundry building, which is submitted under separate cover.

Photographs taken to document Phase II fieldwork are in Appendix B. Phase II fieldwork activities, including boring logs and field notes, were documented in a site logbook; a copy is in Appendix C.

3.1 SCOPE OF THE ASSESSMENT

The Toeroek Team performed environmental sampling to determine if soils, surface water, or sediment at the Site have been contaminated by current and/or historical activities. Unless noted below in Section 3.1.2, sampling was consistent with the QAPP approved by EPA on August 1, 2023 (Toeroek Team 2023).

3.1.1 Sampling Plan

The proposed sampling scheme for this project incorporated a combination of biased/judgmental sampling with definitive laboratory analysis, in accordance with procedures included in the *Guidance for Performing Site Inspections Under CERCLA* (Office of Solid Waste and Emergency Response [OSWER] Directive #9345.1-05, September 1992). All samples were submitted for analysis to an off-site laboratory subcontracted by the Toeroek Team. The objective of soil, groundwater, surface water, and sediment sampling was to characterize possible previous releases to the environment. Sampling at the Site was conducted as follows:

- Ten surface soil boring samples were collected, one at each of 10 direct-push technology (DPT) boring locations. Each sample identification (ID) included the boring location (soil boring [SB]-1 through SB-10), followed by the sampling interval in parentheses; for example, the ID of a sample collected within 0 to 3 feet below ground surface (bgs) at SB-2 would be SB-2 (0-3).
- Ten subsurface soil boring samples were collected, one at each of 10 DPT boring locations (SB-1 through SB-10). Subsurface soil boring samples were collected at biased intervals based on presence of staining or odor, or elevated photoionization detector (PID) readings of volatile organics (obvious contamination). If no obvious contamination was noted within the subsurface interval, the sample was collected from the bottom 2-foot interval of the soil core. Format of each sample ID was like that for a surface soil boring sample; for example, the ID of a sample collected within 32 to 35 feet bgs at SB-4 would be SB-4 (32-35).

- Thirty-six surface soil boring samples were collected by application of Incremental Sampling Method (ISM) within 12 pre-determined decision units (DUs) on the southern and western portions of the Site (DU-12 through DU-24). Sample numbers DU-01 through DU-11 were previously used during the 2020 Phase II ESA and are shown on Figure 3 in Appendix A. ISM is a structured composite sampling and processing protocol that reduces data variability and provides a reasonably unbiased estimate of mean contaminant concentrations in a volume of soil targeted for sampling (Interstate Technology Regulatory Council [ITRC] 2012). The Toeroek Team applied techniques established in ITRC's Incremental Sampling Methodology, Technical and Regulatory Guidance (ITRC 2012). Each ISM sample consisted of approximately 30 aliquots of equal mass collected within 0 to 6 inches bgs.

- Four co-located surface water and sediment samples (surface water [SW]-1 through SW-4 and sediment [SD]-1 through SD-4) were collected from two ponds within the wooded area. Surface water was collected before any disturbance of sediment. Sediment samples were collected from the edge of the pond by use of a disposable spoon or trowel. Sample containers and preservatives utilized for sediment sampling were the same as those utilized for soil boring sampling.

- Groundwater was not encountered above the maximum depth of 35 feet bgs in any DPT boring; therefore, no groundwater samples were collected.

Table 1 summarizes samples collected during Phase II fieldwork activities.

TABLE 1

SUMMARY OF SAMPLES COLLECTED
ELKEM CARBIDE, KEOKUK, IOWA

Purpose of Sampling	Medium	Location	Analyses
DPT Soil Boring – Ten DPT soil borings were advanced to maximum depth of 35 feet bgs. Ten surface soil samples were collected within 0 to 3 feet bgs. Ten subsurface soil samples were collected within the bottom 2 feet of the boring or at a zone of obvious contamination.	Soil	SB-1 through SB-10	VOCs, SVOCs, TEH, and TAL Metals
DU Sampling – Surface soil sampling within DUs occurred to assess presence of SVOCs (specifically PAHs) and metals (including lead) contamination	Soil	DU-13 through DU-24	TAL Metals and SVOCs
Surface Water – Sampling of the two ponds/potential dumping sites occurred within the wooded area on the western portion of the Site.	Surface Water	SW-1 through SW-4	TAL Metals
Sediment Sampling – Sampling of sediment within 0 to 2 inches bgs at the bottom of the two ponds/potential dumping sites occurred within the wooded area on the western portion of the Site.	Sediment	SD-1 through SD-4	VOCs, SVOCs, TEH, and TAL Metals

Notes:

bgs Below ground surface
DPT Direct-push technology
DU Decision unit
PAH Polycyclic aromatic hydrocarbon
SB Soil boring
SD Sediment
SVOC Semivolatile organic compound
SW Surface water
TAL Target Analyte List
TEH Total extractable hydrocarbons
VOC Volatile organic compound

3.1.2 Deviations from the QAPP

The following deviations from the QAPP occurred during Phase II fieldwork activities:

- Groundwater was not encountered above 35 feet in any DPT boring; therefore, no groundwater samples were collected.
- The QAPP stated that surface water samples were to be analyzed for SVOCs, TEH, and dissolved metals; surface water samples were analyzed for total metals only. However, due to an error in the field, sediment samples were analyzed for VOCs, SVOCs, TEH, and metals. Sediment sample analytical results are expected to be representative of the surface water as the water infiltrates into sediments.

3.2 FIELD EXPLORATION AND METHODS

Phase II fieldwork activities at the Site occurred from November 7 through 10, 2023. Field staff shipped soil samples for VOCs, SVOCs, TEH, and TAL metals analyses to Eurofins Environment Testing in Barberton, Ohio. The following sections summarize soil sample collections. Figure 3 in Appendix A depicts the sampling locations at the Site.

3.2.1 Surface and Subsurface Soil Boring Sampling

Ten surface soil and subsurface soil boring samples were collected as discrete samples from a soil boring to assess the presence of contamination from historical activities at the Site. Two surface soil boring samples in the deeper interval at SB-2 were collected as a duplicate pair. Soil boring samples and the corresponding approximate Global Positioning System (GPS) coordinates are listed in Table 2. Figure 3 in Appendix A depicts the sampling locations at the Site.

Sampling proceeded by use of a DPT rig. The Toeroek Team obtained soil cores using DPT sampler rods with disposable polyvinyl chloride (PVC) liners. The soil cores were screened by use of a hand-held PID for presence of elevated concentrations of organic vapors indicating likely presence of VOCs. Soil borings were to be advanced to maximum depth of 35 feet bgs, to groundwater, or to refusal, whichever occurred first; groundwater was not encountered above 35 feet or refusal in any boring. Surface soil boring samples were collected within the 0- to 3-foot bgs interval. Subsurface soil boring samples were collected at biased intervals based on presence of staining or odor or elevated PID readings of volatile organics (obvious contamination). If no obvious contamination was noted within the subsurface interval, the soil boring sample was collected from the bottom 2-foot interval of the soil core.

After completion of sampling at each location, each piece of reusable sampling equipment that encountered the soil sample was decontaminated by application of a non-phosphate detergent and tap

water wash, followed by a tap water rinse. The PVC liners were discarded with other investigation-derived waste (IDW), such as disposable gloves. Boring logs are in Appendix B.

TABLE 2

SOIL SAMPLE SUMMARY
ELKEM CARBIDE, KEOKUK, IOWA

Sample Identification	Latitude (°N)	Longitude (°W)	Sample Type	Analyses Performed
SB-1 (0-3)	40.4184975	91.4203296	Soil Boring	VOCs (EPA Method 8260), SVOCs (EPA Method 8270), TEH (Method OA-2), and TAL Metals (EPA Methods 6010/7471).
SB-1 (33-35)				
SB-2 (0-3)	40.4182994	91.4214759		
SB-2 (33-35)				
SB-2 (33-35) DUP				
SB-3 (0-3)	40.4181807	91.4223439		
SB-3 (33-35)				
SB-4 (0-3)	40.4185827	91.4257745		
SB-4 (33-35)				
SB-5 (0-3)	40.4204637	91.4255978		
SB-5 (33-35)				
SB-6 (0-3)	40.4208590	91.4254818		
SB-6 (30-35)				
SB-7 (0-3)	40.4186253	91.4238252		
SB-7 (33-35)				
SB-8 (0-3)	40.4201336	91.42239378		
SB-8 (33-35)				
SB-9 (0-3)	40.4203516	91.4238959		
SB-9 (29-32)				
SB-10 (0-3)	40.4204499	91.4239402		
SB-10 (20-23)				
DU-13	40.4183766	91.4225353	ISM Composite	SVOCs (EPA Method 8270) and TAL Metals (EPA Methods 6010/7471).
DU-14	40.4184616	91.4233157		
DU-15	40.4190423	91.4235079		
DU-16	40.4184728	91.4240822		
DU-17	40.4183379	91.4252344		
DU-18	40.4188733	91.4257371		
DU-19	40.4196738	91.4257174		
DU-20	40.4204574	91.4256970		
DU-21	40.4212035	91.4256784		
DU-22	40.4211124	91.4236573		
DU-23	40.4202401	91.4240994		
DU-24	40.4204786	91.4231854		

Notes:

DU Decision unit
DUP Field duplicate
EPA U.S. Environmental Protection Agency
ISM Incremental sampling method
N North
SB Soil Boring
SVOC Semivolatile organic compound
TAL Target Analyte List
TEH Total extractable hydrocarbons
VOC Volatile organic compound
W West

Each soil boring sample for VOCs analysis was a grab sample, collected in accordance with EPA SW-846 Method 5035 and consisted of the following: two 40-milliliter (mL) vials, each preserved with sodium bisulfate and containing approximately 5 grams of soil; one 40-mL vial preserved with methanol and containing approximately 5 grams of soil; and one unpreserved 40-mL vial or other appropriate container packed with soil for determination of moisture content. Soil boring samples were analyzed for VOCs via EPA SW-846 Method 8260. Each soil boring sample for TEH analyses (via Method OA-2) was a grab sample collected into one 4-ounce unpreserved jar. Remaining soil from each sampled interval was homogenized and placed into an 8-ounce jar for SVOCs analysis (via EPA SW-846 Method 8270) and TAL metals analysis (via EPA SW-846 Method 6010/7471). Section 4.1 summarizes soil boring samples collected during this Phase II ESA.

3.2.2 ISM Composite Surface Soil Sampling

Thirty-six composite surface soil samples were collected within 12 pre-determined DUs (three replicates per DU) by application of ISM on the southern and western portions of the Site, excluding the central portion of the wooded area. DU boundaries were pre-determined during preparation of the QAPP based on historical Site features. Composite surface soil samples and the corresponding approximate GPS coordinates are listed in Table 2.

ISM is a structured composite sampling and processing protocol that reduces data variability and provides a reasonably unbiased estimate of mean contaminant concentrations in a volume of soil targeted for sampling (ITRC 2012). The Toeroek Team applied techniques established in ITRC's Incremental Sampling Methodology, Technical and Regulatory Guidance (ITRC 2012). Each ISM composite surface soil sample consisted of approximately 30 aliquots of equal mass collected within 0 to 6 inches bgs.

3.2.3 Surface Water and Sediment Sampling

Four surface water and four sediment samples were collected, two each at the two ponds in the wooded areas on the western portion of the Site. Surface water and sediment samples and the corresponding approximate GPS coordinates are listed in Table 3. Figure 3 in Appendix A depicts the sampling locations at the Site.

Using disposable sampling equipment, the Toeroek Team collected co-located surface water and sediment samples. Surface water sampling occurred before disturbance of sediment. Sampling proceeded by use of a decontaminated dipper or a disposable bailer, with subsequent transfer of the water to sample containers. Sediment samples were collected from the edge of the pond by use of a disposable spoon or

trowel. The aliquot for analysis for VOCs was collected first according to EPA Method 5035. The remaining sediment was composited for the remaining analyses.

TABLE 3

SURFACE WATER AND SEDIMENT SAMPLE SUMMARY
ELKEM CARBIDE, KEOKUK, IOWA

Sample Identification	Latitude (°N)	Longitude (°W)	Sample Type	Analyses Performed
SW-1	40.4204341	91.423977	Surface Water	TAL Metals (EPA Methods 6010/7470)
SW-2	40.4204341	91.423991		
SW-3	40.419357	91.425628		
SW-4	40.419384	91.425854		
SD-1	40.4204341	91.423977	Sediment	VOCs (EPA Method 8260), SVOCs (EPA Method 8270), TEH (Method OA-2), and TAL Metals (EPA Methods 6010/7471).
SD-2	40.4204341	91.423991		
SD-3	40.419357	91.425628		
SD-4	40.419384	91.425854		

Notes:

EPA U.S. Environmental Protection Agency
N North
SD Sediment
SVOC Semivolatile organic compound
SW Surface water
TAL Target Analyte List
TEH Total extractable hydrocarbons
VOC Volatile organic compound
W West

All sediment samples were submitted for laboratory analyses for TAL metals, VOCs, SVOCs (including PAHs), and TEH; sample containers and preservatives were the same as used for soil samples. Surface water samples were analyzed for total metals. Each sample was properly labeled and documented in the logbook and on a chain-of-custody form. All samples were handled and analyzed according to standard operating procedures (SOPs) and methods referenced in the site-specific QAPP form.

3.2.4 Quality Control Sampling

Field quality control (QC) sampling for this investigation included one soil field duplicate and two field blanks. Eurofins did not provide trip blanks. The soil field duplicate was collected to determine total method precision. Analytical results from the field duplicate sample pair were used to calculate the relative percent difference (RPD) between each of the duplicate pair results for each reported analyte. The RPD was used for informational purposes only; however, the higher concentration of each analyte in the duplicate sample pair was to be used at the discretion of the Project Manager. Calculated RPDs are included in the applicable data validation reports in Appendix D. Analytical accuracy was determined by analyses of laboratory-prepared spikes and duplicates.

4.0 EVALUATION AND PRESENTATION OF RESULTS

The following sections present analytical data from surface, subsurface soil, surface water, and sediment samples collected during this Phase II ESA. Copies of analytical data packages, data validation reports, and tabled data are in Appendix D.

Soil sample results from this Phase II ESA were compared to IDNR Statewide Standards (SWSs) and EPA Regional Screening Levels (RSLs) for residential and industrial land uses (IDNR 2023; EPA 2023). Metals results from soil samples also were compared to average background concentrations in Lee County to determine if metals results were consistent with naturally occurring concentrations (USGS 2004). A detected concentration of a metal is considered naturally occurring if the concentration does not exceed the average county background concentration in Lee County within one standard deviation of the mean. RSLs for soil assumed a total hazard quotient (THQ) of 0.1. Tables in Appendix D provide additional information on analytes and respective EPA RSLs and IDNR SWSs.

4.1 SOIL SAMPLES

One surface soil sample boring sample and one subsurface soil boring sample was collected at each of 10 pre-selected locations to assess presence of contamination from historical activities at the Site. Soil samples were submitted to Eurofins for analyses for VOCs, SVOCs, TEH, and TAL metals. Three ISM composite surface soil samples were collected from each of the 12 DUs. ISM composite surface soil samples were analyzed for SVOCs and metals.

VOCs

VOCs were detected in one surface soil boring sample, SB-2 (0-3). VOCs detected derived either from probable laboratory contamination (2-butanone or methyl ethyl ketone [MEK]) or presence of common fuel contaminants (benzene, toluene, ethylbenzene, and xylenes [BTEX]). No detected concentration of a VOC in a soil boring sample exceeded a residential EPA RSL or IDNR SWS. Table D-1 in Appendix D shows all detections of VOCs in soil boring samples.

SVOCs

SVOCs were detected in 19 of 20 soil boring samples. No SVOC was detected in subsurface soil boring sample SB-2 (33-35). Concentrations of benzo(a)pyrene and dibenz(a,h)anthracene exceeded EPA RSLs for residential soil in surface soil boring sample SB-3 (0-3); neither detection exceeded an EPA RSL for industrial soil or an IDNR SWS. No other SVOC exceeded a screening level in soil boring samples. Table D-1 in Appendix D shows all detections of SVOCs in soil boring samples.

SVOCs were detected in all 36 of the ISM composite surface soil samples, with 34 of the 36 samples yielding an exceedance of the EPA RSL for residential soil for at least one analyte. Analytes detected at concentrations exceeding their respective EPA RSLs for residential soil were:

- Benzo(a)anthracene in nine samples;
- Benzo(a)pyrene in 34 samples;
- Benzo(b)fluoranthene in nine samples;
- Dibenz(a,h)anthracene in 19 samples; and
- Indeno(1,2,3-cd)pyrene in 10 samples.

No exceedances were detected within DU-20-1 and DU-20-2.

The IDNR SWSs are based on residential exposure criteria and are generally lower than the EPA industrial RSL. Concentrations of dibenz(a.h)anthracene exceeded the IDNR SWS in samples from DU-13, DU-15, DU-22, and DU-24, with the highest concentrations in DU-22 and DU-24. The five SVOCs were detected at concentrations exceeding both the IDNR SWS and the EPA industrial RSL in the three samples from DU-24. In no other sample did an analyte concentration exceed an EPA RSL for industrial soil or an IDNR SWS. No other SVOC exceeded a screening level in soil boring samples.

Table D-2 in Appendix D shows all detections of SVOCs in ISM composite surface soil samples.

Table 4 lists detected exceedances of RSLs in soil for SVOCs for which EPA RSLs or IDNR SWSs for soil have been established. Figure 4 in Appendix A shows locations where concentrations of SVOCs exceeded a screening level.

TABLE 4

EXCEEDED SVOC RESULTS FROM SOIL SAMPLES
ELKEM CARBIDE SITE, KEOKUK, IOWA

Sample Identification	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	EPA RSL (TR=1E-06 THQ=0.1) Residential Soil				
	1,100	**110**	**1,100**	**110**	**1,100**
	EPA RSL (TR=1E-06 THQ=0.1) Industrial Soil				
	21,000	**2,100**	**21,000**	**2,100**	**21,000**
	IDNR SWS for Soil				
	3,100	**2,300**	**3,100**	**310**	**3,100**
Soil Boring Samples					
SB-3 (0-3)	361	**382**	416	**237**	197
ISM Composite Surface Samples					
DU-13-1	630 J	**560 J**	648 J	**293 J**	255 J
DU-13-2	804 J	**786 J**	856 J	**444 J**	358 J
DU-13-3	**1,865 J**	**1,650 J**	**2,210 J**	**715 J**	762 J
DU-14-1	360 J	**289 J**	335 J	**157 J**	161 J
DU-14-2	427 J	**355 J**	392 J	**173 J**	166 J
DU-14-3	359 J	**276 J**	202 J	**141 J**	141 J
DU-15-1	**1,820 J**	**1,670 J**	**2,460 J**	**374 J**	931 J
DU-15-2	**1,420 J**	**1,150 J**	**1,600 J**	**361 J**	602 J
DU-15-3	516 J-	**509 J-**	554 J-	**138 J-**	243 J-
DU-16-1	251 J-	**211 J-**	208 J-	106 J-	108 J-
DU-16-2	180 J-	**149 J-**	143 J-	69.8 J-	75.9 J-
DU-16-3	152 J-	**131 J-**	123 J-	65.4 J-	67.6 J-
DU-17-1	123 J-	**122 J-**	97.8 J-	55.4 J-	57.6 J-
DU-17-2	169 J	**139 J**	135 J	70.4 J	70.4 J
DU-17-3	169 J	**141 J**	143 J	75.9 J	70.7 J
DU-18-1	208 J	**161 J**	163 J	83.4 J	79.6 J
DU-18-2	216 J	**180 J**	199 J	**111 J**	89.6 J
DU-18-3	163 J	**159 J**	132 J	75.3 J	68.3 J
DU-19-1	255 J	**222 J**	249 J	107 J	113 J
DU-19-2	276 J	**212 J**	225 J	**124 J**	111 J
DU-19-3	248 J	**184 J**	188 J	94.5 J	87.7 J
DU-20-3	203 J	**167 J**	163 J	90.7 J	87.4 J
DU-21-1	108 J	**111 J**	117 J	39.2 J	58.3 J
DU-21-2	188 J-	**155 J-**	143 J-	76.1 J-	74.6 J-
DU-21-3	183 J	**141 J**	143 J	79.3 J	75.1 J
DU-22-1	**1,960 J-**	**1,450 J-**	**1,620 J-**	**654 J-**	715 J-
DU-22-2	**2,080 J-**	**1,480 J-**	**1,580 J-**	**805 J-**	737 J-
DU-22-3	**2,520 J-**	**1,720 J-**	**1,820 J-**	**1,060 J-**	901 J-

TABLE 4

EXCEEDED SVOC RESULTS FROM SOIL SAMPLES
ELKEM CARBIDE SITE, KEOKUK, IOWA

Sample Identification	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Dibenz(a,h)anthracene	Indeno(1,2,3-cd)pyrene
	EPA RSL (TR=1E-06 THQ=0.1) Residential Soil				
	1,100	**110**	**1,100**	**110**	**1,100**
	EPA RSL (TR=1E-06 THQ=0.1) Industrial Soil				
	21,000	**2,100**	**21,000**	**2,100**	**21,000**
	IDNR SWS for Soil				
	3,100	**2,300**	**3,100**	**310**	**3,100**
DU-23-1	190 J-	**190 J-**	136 J-	92.8 J-	73.4 J-
DU-23-2	325 J-	**254 J-**	258 J-	**138 J-**	129 J-
DU-23-3	321 J-	**249 J-**	260 J-	**138 J-**	132 J-
DU-24-1	**7,700 J**	**5,890 J**	**12,800 J**	**1,120 J**	**3,170 J**
DU-24-2	**13,000 J**	**9,320 J**	**20,000 J**	**2,350 J**	**4,690 J**
DU-24-3	**4,160 J**	**4,860 J**	**4,860 J**	**1,020 J**	**1,830 J**

Notes:

All values are in micrograms per kilogram.
Bold font indicates concentration exceeds EPA RSL for residential soil. Shading indicates concentration exceeds EPA RSL for industrial soil and/or the IDNR SWS.

DU	Decision unit
EPA	U.S. Environmental Protection Agency
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J-	Qualified as estimated, biased low
NE	Not established
RSL	Regional Screening Level (EPA 2023)
SB	Soil boring
SWS	Statewide Standard (IDNR 2023)
THQ	Total hazard quotient
TR	Total cancer risk

TEH

TEH was detected in 18 of the 20 soil boring samples. No concentration of TEH exceeded the IDNR SWS; no RSL has been established for TEH. Table D-1 in Appendix D shows all detections of TEH in soil boring samples, and Table D-2 in Appendix D shows all detections of TEH in ISM composite surface soil samples.

Metals

Metals were detected in all soil boring samples. The following metals exceeded the EPA residential RSL or IDNR SWS a screening level in at least one soil boring sample:

- **Aluminum:** The EPA residential RSL for aluminum is above the average background concentration in Lee County (USGS 2004). Detections of aluminum occurred at concentrations exceeding the EPA residential RSL (7,700 milligrams per kilogram [mg/kg]) in all 10 surface soil boring samples and in subsurface soil boring samples at SB-1 and SB-2. None of the detections exceeded the EPA industrial RSL, and an IDNR SWS has not been established for aluminum.
- **Arsenic:** The EPA residential and industrial RSLs and the IDNR SWS for arsenic are below the average background concentration in Lee County (USGS 2004). The average concentration of arsenic in Lee County is 8.277 ± 1.304 mg/kg, and the maximum concentration observed in the 2004 USGS survey was 11.111 mg/kg. Detections of arsenic were significantly above the average background concentration in Lee County and exceeding the EPA residential RSL (0.68 mg/kg) in surface soil boring samples at SB-1, SB-4, SB-5, and SB-8 and in the subsurface soil boring sample from SB-1. These detections also exceeded the EPA industrial RSL (3.0 mg/kg) and the SWS (2 mg/kg). Only the detections at SB-1 (33-35) and SB-8 (0-3) exceeded the average background concentration in Lee County (22.7 mg/kg and 11.7 mg/kg, respectively). Given the depth of the soil and the similarity to the background maximum, the detections of arsenic are considered naturally occurring in the soil boring samples and are not discussed further in Section 5.0.
- **Cobalt:** No background concentration has been established for cobalt in Lee County (USGS 2004). Detections of cobalt occurred at concentrations exceeding the EPA residential RSL (2 mg/kg) in all 10 surface soil boring samples and all 10 subsurface soil boring samples. None of the detections exceeded the EPA industrial RSL or the IDNR SWS.
- **Iron:** The EPA residential RSL for iron is above the average background concentration in Lee County (USGS 2004). Detections of iron occurred at concentrations exceeding the EPA residential RSL (5,500 mg/kg) in all 10 surface soil boring samples and all 10 subsurface soil boring samples. None of the detections exceeded the EPA industrial RSL, and an IDNR SWS has not been established for iron.
- **Manganese:** The EPA residential RSL for manganese is below the average background concentration in Lee County (USGS 2004); the EPA industrial RSL and IDNR SWS are above the average background concentration. The average concentration of manganese in Lee County is 682.588 ± 132.064, and the maximum concentration observed in the 2004 USGS survey was 1,038.420 mg/kg. Detections of manganese were significantly above the background concentration in Lee County and exceeding the EPA residential RSL (180 mg/kg) in the surface soil boring sample at SB-1. This detection did not exceed the EPA industrial RSL or IDNR SWS. No other detection significantly exceeded the background concentration in Lee County.

Table D-1 in Appendix D shows all detections of metals in soil boring samples.

The following metals exceeded the EPA residential RSL or IDNR SWS a screening level in at least one ISM composite surface soil sample:

- The EPA residential RSL for aluminum is above the average background concentration in Lee County (USGS 2004). Detections of aluminum occurred at concentrations exceeding the EPA residential RSL (7,700 mg/kg) in at least one surface soil sample from each DU except DU-17 and DU-24. None of the detections exceeded the EPA industrial RSL, an IDNR SWS has not been established for aluminum.
- No background concentration has been established for antimony in Lee County (USGS 2004). Detections of antimony occurred at concentrations exceeding the EPA residential RSL (3.1 mg/kg) in two surface soil samples from DU-15. Neither of the detections exceeded the EPA industrial RSL, an IDNR SWS has not been established for antimony.
- The EPA residential and industrial RSLs and the IDNR SWS for arsenic are below the average background concentration in Lee County (USGS 2004). The average concentration of arsenic in Lee County is 8.277 ± 1.304 mg/kg, and the maximum concentration observed in the 2004 USGS survey was 11.111 mg/kg. Detections of arsenic were significantly above the background concentration in Lee County and exceeding the EPA residential RSL (0.68 mg/kg) in one surface soil sample from DU-14, from all three surface soil samples from DU-22, and from all three surface soil samples from DU-24. These detections also exceeded the EPA industrial RSL (3.0 mg/kg) and the SWS (2 mg/kg). Of these exceedances, only the detections from DU-22 were notably above the county maximum (22.7 mg/kg and 11.7 mg/kg, respectively). Only the detections of arsenic from DU-22 are discussed further in Section 5.0.
- No background concentration has been established for cadmium in Lee County (USGS 2004). Detections of cadmium occurred at concentrations exceeding the EPA residential RSL (0.71 mg/kg) in one surface soil sample from DU-15-3 and from all three surface soil samples in DU-22 and DU-24. The concentrations detected in the surface soil samples from DU-22 and DU-24 all exceeded the EPA industrial RSL (10 mg/kg), but none exceeded the IDNR SWS (70 mg/kg).
- No background concentration has been established for cobalt in Lee County (USGS 2004). Detections of cobalt occurred at concentrations exceeding the EPA residential RSL (2 mg/kg) in all ISM composite surface soil samples. None of the detections exceeded the EPA industrial RSL or the IDNR SWS.
- The EPA residential RSL for iron is above the average background concentration in Lee County (USGS 2004). Detections of iron occurred at concentrations exceeding the EPA residential RSL (5,500 mg/kg) in all ISM composite surface soil samples. None of the detections exceeded the EPA industrial RSL, and an IDNR SWS has not been established for iron.
- The EPA residential RSL for lead is above the average background concentration in Lee County (USGS 2004). Detections of lead occurred at concentrations exceeding the EPA residential RSL (400 mg/kg), EPA industrial RSL (800 mg/kg), and IDNR SWS (400 mg/kg) in all three surface soil samples from DU-22 and DU-24.

- The EPA residential RSL for manganese is below the average background concentration in Lee County (USGS 2004); the EPA industrial RSL and IDNR SWS are above the average background concentration in Lee County. The average concentration of manganese in Lee County is 682.588 ± 132.064, and the maximum concentration observed in the 2004 USGS survey was 1,038.420 mg/kg. Detections of manganese were significantly above background concentration in Lee County and exceeded the EPA residential RSL (180 mg/kg) in at least one surface soil sample from DU-13 and DU-14. This detection did not exceed the EPA industrial RSL or IDNR SWS.

Table D-2 in Appendix D shows all detections of metals in ISM composite surface soil samples.

Table 5 lists detected exceedances of RSLs in soil for metals for which EPA RSLs or IDNR SWSs for soil have been established. Figure 5 in Appendix A shows locations where concentrations of the metals exceeded a benchmark and significantly exceeded a background concentration in Lee County.

TABLE 5

EXCEEDED METALS RESULTS FOR SOIL SAMPLES
ELKEM CARBIDE, KEOKUK, IOWA

Sample Identification	Aluminum	Antimony	Arsenic	Cadmium	Cobalt	Iron	Lead	Manganese
	EPA RSL (TR=1E-06 THQ=0.1) Residential Soil							
	7,700	**3.1**	**0.68**	**0.71**	**2**	**5,500**	**200**	**180**
	EPA RSL (TR=1E-06 THQ=0.1) Industrial Soil							
	110,000	**47**	**3**	**10**	**35**	**82,000**	**800**	**2,600**
	IDNR SWS for Soil							
	NE	**NE**	**2**	**70**	**23**	**NE**	**400**	**10,000**
	USGS Average Soil Concentration							
	4.649 ± 0.826	**NE**	**8.277 ± 1.304**	**NE**	**NE**	**2.117 ± 0.338**	**18.355 ± 2.624**	**682.588 ± 132.064**
Soil Boring Samples								
SB-1(0-3)	**15,300**	ND	**11.1***	0.288 J	**19.9**	**22,400**	20.2	**1,230**
SB-1(33-35)	4,900	ND	**22.7***	0.341 J	**7.94**	**28,900**	6.02	275
SB-2(0-3)	862	ND	3.67	0.289 J	**4.68**	**21,500**	5.07	502
SB-2(33-35)	4,730	ND	4.02	0.205 J	**5.25**	**11,800**	5.78	168
SB-2(33-35) DUP	4,690	ND	3.41	0.196 J	**4.69**	**11,100**	5.36	139
SB-3(0-3)	**11,000**	1.02 J	5.81	0.246 J	**9.6**	**16,700**	35.2	485
SB-3(33-35)	5,360	ND	4.21	0.153 J	**5.56**	**12,000**	6.63	203
SB-4(0-3)	**11,800**	0.693 J	**10.2***	0.167 J	**7.36**	**17,600**	29.1	598
SB-4(33-35)	5,200	ND	6.49	0.208 J	**8.3**	**16,600**	6.66	304
SB-5 (0-3)	**15,200**	ND	**11.0***	ND	**7.18**	**22,600**	13.5	150
SB-5 (33-35)	5,250	ND	6.66	0.209 J	**10.6**	**14,200**	6.68	392
SB-6 (0-3)	**14,600**	ND	5.34	ND	**7.93**	**18,400**	9.21	157
SB-6 (33-35)	5,450	ND	4.61	0.161 J	**5.09**	**13,900**	5.78	190
SB-7 (0-3)	**15,700**	ND	8.78	ND	**4.29**	**21,400**	8.04	138
SB-7 (33-35)	4,800	ND	5.41	0.101 J	**7.72**	**14,200**	4.89	259
SB-8 (0-3)	**21,300**	ND	**11.7***	ND	**5.77**	**24,900**	14.3	247
SB-8 (33-35)	5,670	ND	3.75	0.194 J	**7.82**	**12,100**	5.43	208
SB-9 (0-3)	**20,200**	ND	**9.39***	ND	**7.95**	**22,500**	12.3	453
SB-9 (29-32)	4,770	ND	4.29	0.128 J	**6.69**	**13,100**	6.5	280
SB-10 (0-3)	**19,600**	0.408	**8.99***	ND	**8.29**	**23,000**	9.38	256
SB-10 (20-23)	7,140	ND	4.49	ND	**12.5**	**12,400**	11.2	286

TABLE 5

EXCEEDED METALS RESULTS FOR SOIL SAMPLES
ELKEM CARBIDE, KEOKUK, IOWA

Sample Identification	Aluminum	Antimony	Arsenic	Cadmium	Cobalt	Iron	Lead	Manganese
	EPA RSL (TR=1E-06 THQ=0.1) Residential Soil							
	7,700	**3.1**	**0.68**	**0.71**	**2**	**5,500**	**200**	**180**
	EPA RSL (TR=1E-06 THQ=0.1) Industrial Soil							
	110,000	**47**	**3**	**10**	**35**	**82,000**	**800**	**2,600**
	IDNR SWS for Soil							
	NE	**NE**	**2**	**70**	**23**	**NE**	**400**	**10,000**
	USGS Average Soil Concentration							
	4.649 ± 0.826	**NE**	**8.277 ± 1.304**	**NE**	**NE**	**2.117 ± 0.338**	**18.355 ± 2.624**	**682.588 ± 132.064**
ISM Composite Surface Soil Samples								
DU-13-1	**9,780**	1.10 J	**9.39***	0.643	**19.8**	**18,500**	42.6	**1,720**
DU-13-2	7,020	ND	6.29	0.478	**10.7**	**17,000**	24.1	627
DU-13-3	7,090	ND	6.01	0.454	**8.1**	**20,700**	21.7	396
DU-14-1	**9,770**	1.19 J	**9.79***	0.339 J	**12.1**	**16,300**	52.1	**1,300**
DU-14-2	**9,490**	1.19 J-	8.19	0.330 J	**11.6**	**14,700**	42.2	**1,030**
DU-14-3	**8,600**	0.709 J	7.79	0.272 J	**8.72**	**13,300**	40.7	686
DU-15-1	**8,100**	2.5	7.26	0.554	**6.84**	**13,000**	112	612
DU-15-2	7,070	**3.5**	7.82	0.93	**5.33**	**12,800**	152	572
DU-15-3	7,090	**3.22**	6.93	**1.47**	**7.04**	**11,800**	158	808
DU-16-1	6,210	0.745 J	6.56	0.197 J	**6.06**	**10,700**	32.9	716
DU-16-2	**7,550**	0.616 J	6.85	0.255 J	**8.44**	**12,000**	33.6	709
DU-16-3	7,510	0.561 J	5.81	0.236 J	**6.05**	**11,800**	25.6	468
DU-17-1	6,350	0.601 J	6.7	0.191 J	**5.98**	**11,000**	26.9	642
DU-17-2	6,780	0.300 J	5.85	0.160 J	**5.14**	**10,500**	25	564
DU-17-3	7,050	0.402 J	7.29	0.170 J	**7.68**	**12,100**	26	**968**
DU-18-1	**8,380**	ND	5.8	0.198 J	**5.37**	**11,100**	25.4	627
DU-18-2	**9,230**	ND	6.17	0.210 J	**6.44**	**12,000**	27.4	621
DU-18-3	**10,600**	0.353 J	7.23	0.200 J	**8.54**	**14,100**	25.1	715
DU-19-1	**9,810**	ND	6.2	0.310 J	**8.47**	**13,200**	39.9	432
DU-19-2	**9,580**	0.469 J	5.85	0.258 J	**7.13**	**11,300**	33.9	346
DU-19-3	**8,770 B**	0.696 J-	6.36	0.279 J	**6.65**	**11,900**	37.9	394
DU-20-1	**10,500 B**	0.323 J	7.4	0.162 J	**8.57**	**15,500**	15.7	330
DU-20-2	**10,400 B**	0.417 J	7.14	0.172 J	**8.18**	**15,600**	17.3	317

TABLE 5

EXCEEDED METALS RESULTS FOR SOIL SAMPLES
ELKEM CARBIDE, KEOKUK, IOWA

Sample Identification	Aluminum	Antimony	Arsenic	Cadmium	Cobalt	Iron	Lead	Manganese
	EPA RSL (TR=1E-06 THQ=0.1) Residential Soil							
	7,700	**3.1**	**0.68**	**0.71**	**2**	**5,500**	**200**	**180**
	EPA RSL (TR=1E-06 THQ=0.1) Industrial Soil							
	110,000	**47**	**3**	**10**	**35**	**82,000**	**800**	**2,600**
	IDNR SWS for Soil							
	NE	**NE**	**2**	**70**	**23**	**NE**	**400**	**10,000**
	USGS Average Soil Concentration							
	4.649 ± 0.826	**NE**	**8.277 ± 1.304**	**NE**	**NE**	**2.117 ± 0.338**	**18.355 ± 2.624**	**682.588 ± 132.064**
DU-20-3	**9,840 B**	ND	6.8	0.207 J	**7.87**	**14,700**	21.5	336
DU-21-1	**11,100 B**	ND	6.14	0.252 J	**6.19**	**12,500**	18	242
DU-21-2	**9,650 B**	0.313 J	6.97	0.233 J	**7.18**	**13,600**	24.3	437
DU-21-3	**10,600 B**	ND	6.68	0.241 J	**7.15**	**13,100**	21.8	380
DU-22-1	**8,530**	ND	**22.7**	**37.7**	**8.77**	**14,600**	**1,770**	739
DU-22-2	**8,150**	ND UJ	**27.5**	**49.9**	**6.54**	**13,900**	**2,530**	463
DU-22-3	7,080	ND	**30.7**	**45**	**5.25**	**12,700**	**2,940**	382
DU-23-1	**9,230**	0.867 J	7.09	0.350 J	**7.37**	**13,600**	44.6	550
DU-23-2	**8,310**	0.667 J	7.72	0.255 J	**8.26**	**13,500**	41.2	803
DU-23-3	7,140	0.849 J	6.1	0.256 J	**8**	**11,400**	37.3	614
DU-24-1	4,950	0.782 J	**9.81***	**33.2**	**5.97**	**16,600**	**1,090**	563
DU-24-2	5,160	3.19	**12.8***	**53.6**	**6.34**	**17,000**	**965**	524
DU-24-3	5,380	10.5	**12.1***	**35.6**	**6.44**	**12,000**	**1,060**	529

Notes:

All values are in milligrams per kilogram.

Bold font indicates concentration exceeds EPA RSL for residential soil and background concentration in Lee County, Iowa.

Pink Shading indicates concentration exceeds EPA RSL for industrial soil and background concentration in Lee County, Iowa.

* Considered consistent with background.

DU Decision Unit
EPA U.S. Environmental Protection Agency
IDNR Iowa Department of Natural Resources
NE Not established
RSL Regional Screening Level (EPA 2023)
SB Soil Boring
SWS Statewide Standard (IDNR 2023)
THQ Total hazard quotient
TR Total cancer risk
USGS U.S. Geological Survey (2004)

4.2 SURFACE WATER AND SEDIMENT SAMPLES

VOCs

Surface water was not analyzed for VOCs. One VOC was detected in one of the four sediment samples, SD-3. The VOC likely derived from laboratory contamination (2-butanone [MEK]). The detection did not exceed the EPA residential RSL or IDNR SWS. Table D-4 in Appendix D shows all analytical results for VOCs for sediment samples.

SVOCs

Surface water was not analyzed for SVOCs. SVOCs were detected in all sediment samples. No SVOC concentration in a sediment sample exceeded an EPA residential RSL or IDNR SWS. Table D-4 in Appendix D shows all analytical results for SVOCs for sediment samples.

Metals

Metals were detected in all surface water and sediment samples. Manganese was detected in one of the four surface water samples (SW-2) at 327 micrograms per liter (µg/L), exceeding the IDNR protected groundwater source SWS (300 µg/L). No other detection exceeded an EPA RSL or IDNR SWS. Table D-3 in Appendix D shows all analytical results for metals for surface water samples.

In sediment samples, aluminum, arsenic, cobalt, iron and manganese concentrations all exceeded their respective EPA residential RSLs in at least one sediment sample. However, all detections of arsenic and manganese were below the average concentration in Lee County (USGS 2004) and are considered naturally occurring. Table 6 lists detected exceedances of RSLs in sediment for metals for which EPA RSLs or IDNR SWSs for soil have been established. Figure 5 in Appendix A shows locations where concentrations of metals exceeded a screening level. Table D-4 in Appendix D shows all analytical results for metals for sediment samples.

TABLE 6

**EXCEEDED METALS RESULTS FOR SEDIMENT SAMPLES
ELKEM CARBIDE, KEOKUK, IOWA**

Sample Identification	Aluminum	Cobalt	Iron
	EPA RSL (TR=1E-06, THQ=0.1) Residential Soil		
	7,700	2	5,500
	EPA RSL (TR=1E-06, THQ=0.1) Industrial Soil		
	110,000	35	82,000
	IDNR SWS for Soil		
	NE	23	NE
	USGS Average Soil Concentration		
	4.649 ± 0.826	NE	2.117 ± 0.338
SD-1	**17,100**	**12.0**	**23,600**
SD-2	**16,000**	**12.9**	**21,500**
SD-3	3,010	1.88	3,240
SD-4	**8,780**	**6.79**	**13,100**

Notes:

All values are in milligrams per kilogram.

Bold font indicates concentration exceeds EPA RSL for residential soil and background concentration in Lee County, Iowa.

EPA U.S. Environmental Protection Agency
IDNR Iowa Department of Natural Resources
NE Not established
RSL Regional Screening Level (EPA 2023)
SD Sediment sample
SWS Statewide Standard (IDNR 2023)
THQ Total hazard quotient
TR Total cancer risk

TEH

TEH was detected in all four sediment samples. No concentration of TEH exceeded an IDNR SWS. Table D-4 in Appendix D shows all analytical results for TEH for sediment samples.

4.3 QUALITY CONTROL SAMPLES

Two water field blanks were included in this Phase II ESA to determine whether contamination had been introduced during sampling and/or laboratory procedures. Toluene was detected in both field blanks at concentrations between the method detection limit (MDL) and reporting limit (RL).

The data validation reports included in Appendix D provide a discussion of the implications of these detections in the blanks. The results of data validation have been applied as data qualifiers in the tables in Section 4.1 and Section 4.2 and in the extended tables in Appendix D. All data are considered usable.

5.0 DISCUSSION OF SIGNIFICANT FINDINGS AND CONCLUSIONS

This section summarizes significant findings and offers conclusions regarding Phase II fieldwork.

5.1 SOIL SAMPLES

No detected concentration of a VOC or TEH exceeded a regulatory benchmark in any soil boring sample or ISM composite surface soil sample.

SVOCs were detected in 19 of 20 soil boring samples. Concentrations of benzo(a)pyrene and dibenz(a,h)anthracene exceeded EPA RSLs for residential soil in surface soil at SB-3 but did not exceed EPA RSLs for industrial soil or IDNR SWSs. No other concentration of SVOCs in a soil boring sample exceeded a screening level.

SVOCs were detected in all 36 of the ISM composite surface soil samples, with at least one sample in every DU yielding an exceedance of the EPA residential RSL for at least one analyte. The five PAHs exceeding their EPA residential RSLs in at least one DU were benzo(a)anthracene (four DUs), benzo(a)pyrene (all DUs), benzo(b)fluoranthene (four DUs), dibenz(a,h)anthracene (eight DUs), and indeno(1,2,3-cd)pyrene (one DU). Dibenz(a,h)anthracene exceeded the IDNR SWS, which is based on residential exposure, in DU 13, DU-15, DU-22, and DU-24. The five SVOCs were detected at concentrations exceeding both the IDNR SWS and the EPA industrial RSL in samples from DU-24.

For the purposes of this discussion, only metals detected significantly above background concentrations in Lee County are considered exceedances, if established.

Metals were detected in all 20 soil boring samples. Concentrations of cobalt and iron exceeded EPA residential RSLs in all soil boring samples, and concentrations were similar in surface and subsurface soil boring samples. Aluminum exceeded the residential RSL in all but one surface soil boring sample (SB-2), but in only two of the subsurface soil boring samples (only SB-1 and SB-2). Generally, concentrations of aluminum were higher in surface soil. In addition, manganese was also detected at a concentration above the EPA residential RSL in SB-1. No metals detection exceeded an industrial RSL or IDNR SWS in a soil boring sample.

Metals were detected in all 36 of the ISM composite surface soil samples, with at least one surface soil sample in every DU yielding an exceedance of the EPA residential RSL for at least one analyte. Concentrations of cobalt and iron exceeded EPA residential RSLs in every DU, and aluminum exceeded the residential RSL in all but one DU (all but DU-17). In addition, cadmium and lead were detected above

EPA industrial RSLs and IDNR SWSs in DU-22 and DU-24, and arsenic was detected above EPA industrial RSL and IDNR SWS in DU-22. No other detection exceeded an EPA residential RSL and significantly exceeded a background concentration in Lee County.

5.2 SURFACE WATER AND SEDIMENT SAMPLES

No detected concentration of a VOC, TEH, or SVOC exceeded a regulatory benchmark in sediment. No metal exceeded an RSL in surface water. However, the concentration of manganese exceeded the IDNR protected groundwater source SWS (300 µg/L).

Metals were detected in all four sediment samples. For the purposes of this discussion, only constituents detected significantly above background concentration in Lee County are considered exceedances, if established. Concentrations of aluminum, cobalt, and iron exceeded EPA residential RSLs in sediment samples SD-1, SD-2, and SD-4. No metals detection exceeded an industrial RSL or IDNR SWS in any of sediment samples. No other metal exceeded a benchmark and significantly exceeded a background concentration in Lee County.

5.3 EVALUATION OF PREVIOUSLY IDENTIFIED RECS

This section discusses and evaluates previously identified RECs for the Site reported in the Phase I ESA report by Impact in November 2020.

- The larger Elkem Carbide property was developed by at least as early as 1915 for smelting and refining of zinc and lead. EPA issued a letter of recommendation to determine possible Superfund program involvement with the Elkem Carbide property based on associated historical contaminants: heavy metals, PAHs, VOCs, asbestos, LBP, total petroleum hydrocarbons (TPH), and hydrochloric acid.
- Storage of railroad ties and automotive wastes was observed, the latter along the southeast property boundary.
- Interview documentation from a previously completed Phase I ESA in 2018 revealed lower-elevation areas on the west side of the Site had historically been used for dumping waste materials. Detected high concentrations of SVOCs and lead confirmed this REC.

Detections above of heavy metals (arsenic, cadmium, and lead) at concentrations above EPA industrial RSLs in DU-22 and DU-24, PAHs at concentrations above EPA industrial RSLs in DU-24, and widespread detections of PAHs above EPA residential RSLs across the entire Site confirm the REC related to the activity of the foundry building. Sampling during this Phase II ESA did not find specific evidence of contamination relating to dumping in the western DUs, nor did it find specific evidence of contamination related to the railroad ties and automotive waste at SB-1 and SB-2.

5.4 CONCEPTUAL SITE MODEL

The following sections describe elements of the conceptual site model:

5.4.1 Chemical Release Scenario and Spatial Distribution

Sampling results during this Phase II ESA indicated presence of VOCs, SVOCs, TEH, and metals in soils. Sampling results from soil were compared to EPA RSLs under residential and industrial scenarios, and to IDNR SWSs for soil, with a THQ of 0.1 for RSLs (EPA 2023; IDNR 2023). These comparisons indicated elevated concentrations of SVOCs and metals likely associated with historical operations at or adjacent to the Site (that is, from the Elkem Carbide property immediately adjacent to and east of the Site).

Elevated concentrations of heavy metals (arsenic, cadmium, and lead) were largely confined to DU-22 and DU-24, where concentrations of these metals exceeded EPA industrial RSLs. Isolated areas also had exceedances of EPA residential RSLs—manganese in surface soil at SB-1, DU-13, and DU-14 and antimony at DU-15. Aluminum, cobalt, and iron exceeded EPA residential RSLs in almost all soil and sediment samples. Concentrations of cobalt and iron in surface soil samples were very similar to those of subsurface soil samples from the same boring, suggesting a natural origin rather than deposition from Elkem Carbide industrial processes. Concentrations of aluminum tended to be higher in surface soil, suggesting either a source related to aerial deposition from foundry activities or from weathering at the surface of aluminum-containing minerals.

Elevated concentrations of SVOCs, specifically PAHs, were present in all DUs; all ISM composite surface soil samples and one soil boring sample (surface soil boring sample from SB-3, immediately adjacent to the foundry). No PAHs were detected in any of the subsurface soil boring samples. The widespread presence of SVOCs at elevated concentrations across the entire site suggests deposition from aerial deposition from historical foundry activities or from the burning of vegetation across the entire Site. The highest concentrations, including concentrations exceeding EPA industrial RSLs and IDNR SWSs, were also confined to DU-24. Elevated concentrations of metals and PAHs at DU-22 and DU-24 suggest an area of disposal of foundry wastes.

5.4.2 Current and Future Land Use and Groundwater Use

The Site consists of southern and western portions of a larger parcel addressed as 365 Carbide Lane in Keokuk, Lee County, Iowa. The Site encompasses approximately 26 acres of the larger 79-acre parcel.

Currently, groundwater is not used for drinking water at the Site. Groundwater was not encountered during Phase II fieldwork activities at depths shallower than 35 feet bgs. The City of Keokuk currently has a well ordinance (Ordinance No. 1865), which prohibits construction of private water supply wells within 300 feet of a public water line.

5.4.3 Land and Groundwater Use Restrictions

No known land or groundwater use restrictions exist.

5.4.4 Physical Conditions

A discussion of physical conditions is in Section 2.2 of this report.

5.4.5 Remedial Activities at the Site

No known remedial activities have occurred at the Site.

5.4.6 Exposure Model

Groundwater Migration Pathway and Targets

The Site is within a primarily industrial area of Keokuk, Iowa. Groundwater was not encountered at the Site. Use of groundwater at the Site as a potable water source is not expected in the future. Because the City of Keokuk serves the groundwater domestic use pathway, likelihood of ingestion of or dermal exposure to contaminants present in groundwater at the Site is low.

Surface Water Migration Pathway and Targets

The hydrologic gradient at the Site is not known but is inferred to be parallel to the topographic gradient, which primarily slopes to the east-southeast. Lee County, Iowa has 98 listed species classified as threatened or endangered (IDNR 2024). Presence of these species at the Site area has not been verified, and the Site has not undergone a habitat assessment.

Two ponds in the western portion of the Site are within the heavily wooded area. Surface water in the vicinity of the ponds is assumed to drain in the direction of the ponds. Four surface water samples were collected and analyzed for metals. Metals were detected in all surface water samples. Manganese was detected in one of three surface water samples (327 µg/L), exceeding the IDNR protected groundwater source SWS (300 µg/L). No other metal concentration was above an EPA MCL or IDNR SWS. Concentrations of aluminum, cobalt, and iron exceeded EPA residential RSLs for soil in three of the four sediment samples. These concentrations were similar to those observed in soil across the Site. Because of

the nature of these ponds, they are unlikely to be used for drinking water or recreation. The likelihood of ingestion of or dermal exposure to contaminants present in surface water at the Site is low.

Soil Exposure and Air Migration Pathways and Targets

Soils at the Site are Weller silt loam with 5 to 9 percent slopes, Ashgrove silt loam with 9 to 14 percent slopes, Pershing silt loam with 2 to 5 percent slopes, Lindley loam, and Orthents (loamy) (USDA 2023). Dominant soils in the area are Weller extremely fine-grained silt loam. The Weller series consists of moderately well-drained soils with moderately fine textures. These soils generally have slow infiltration rates with soil layers impeding downward movement of water. The Site includes heavily wooded areas, parking, and one building. Based on concentrations of contaminants in soils at the Site and the widespread distribution of exceedance of EPA RSLs and IDNR SWSs, as well as the known historical use of the overall property, likelihood of direct exposure to metals and SVOCs at concentrations above residential screening levels is high. Exposure to soil contamination at concentrations above industrial screening levels is high in DU-22 and DU-24.

5.5 AFFECTED MEDIA

Sampling results during this Phase II ESA indicated presence of SVOCs and metals in soil and sediment at the Site at concentrations above benchmarks. Comparisons with EPA RSLs and IDNR SWSs and the spatial distribution of detections indicated that these elevated concentrations were likely associated with historical operations at or adjacent to the Site. Some of the metal and SVOC detections exceeded EPA industrial RSLs at DU-22 and DU-24.

The current owner of the Site, the City of Keokuk, has shown an interest in redeveloping the Site, and future anticipated land use is industrial/light industrial business, contingent on findings from this Phase II ESA. Based on analytical results from surface soil boring samples, further investigation and/or remediation appears warranted.

6.0 REFERENCES

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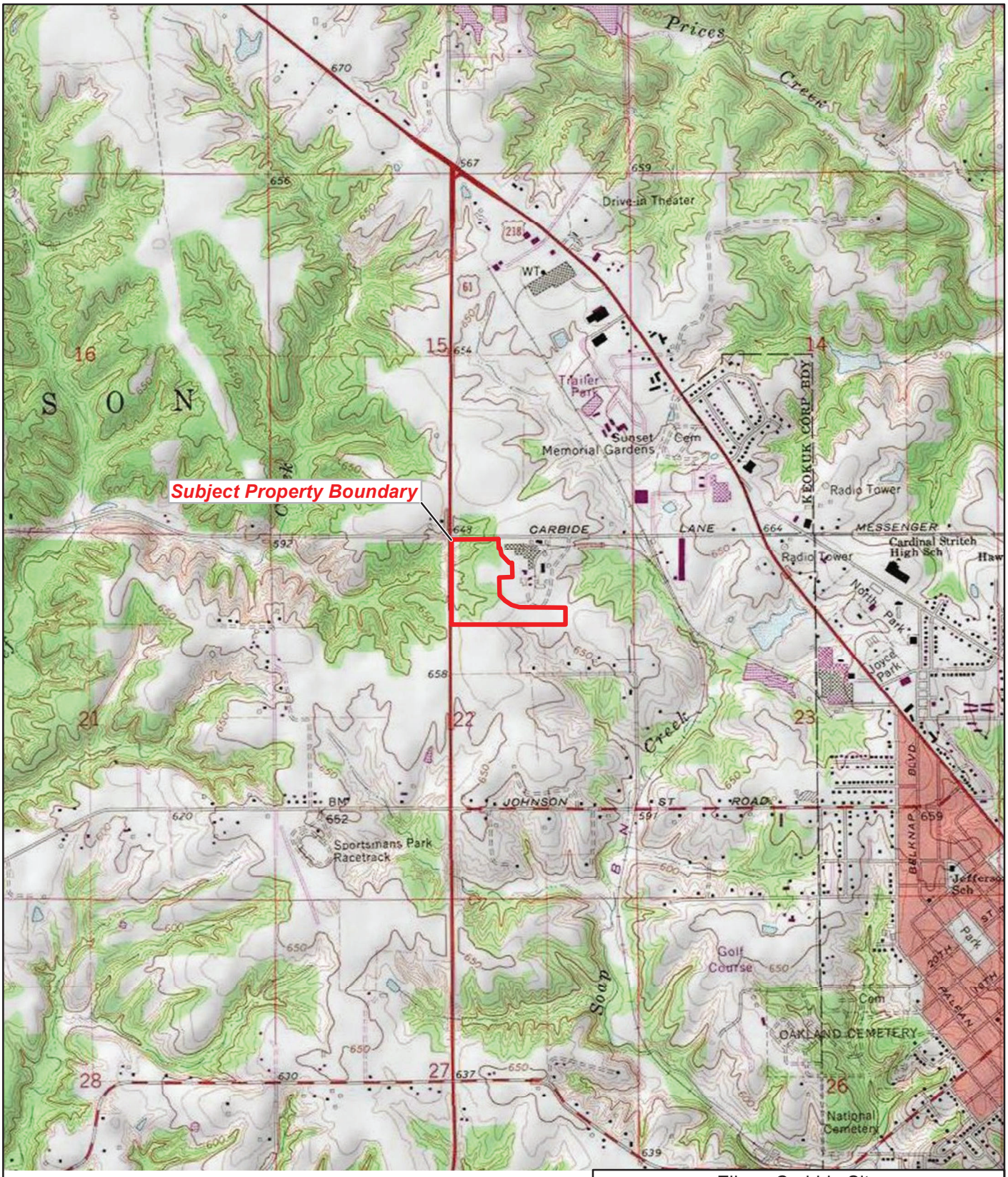
APPENDIX A

FIGURES

FIGURE 1

SITE LOCATION MAP



N

0 1,000 2,000

Feet

Source: USGS Keokuk, IA 7.5 Minute Topo Quad, 1977

Elkem Carbide Site
365 Carbide Lane
Keokuk, Iowa

Figure 1
Site Location Map

TETRA TECH

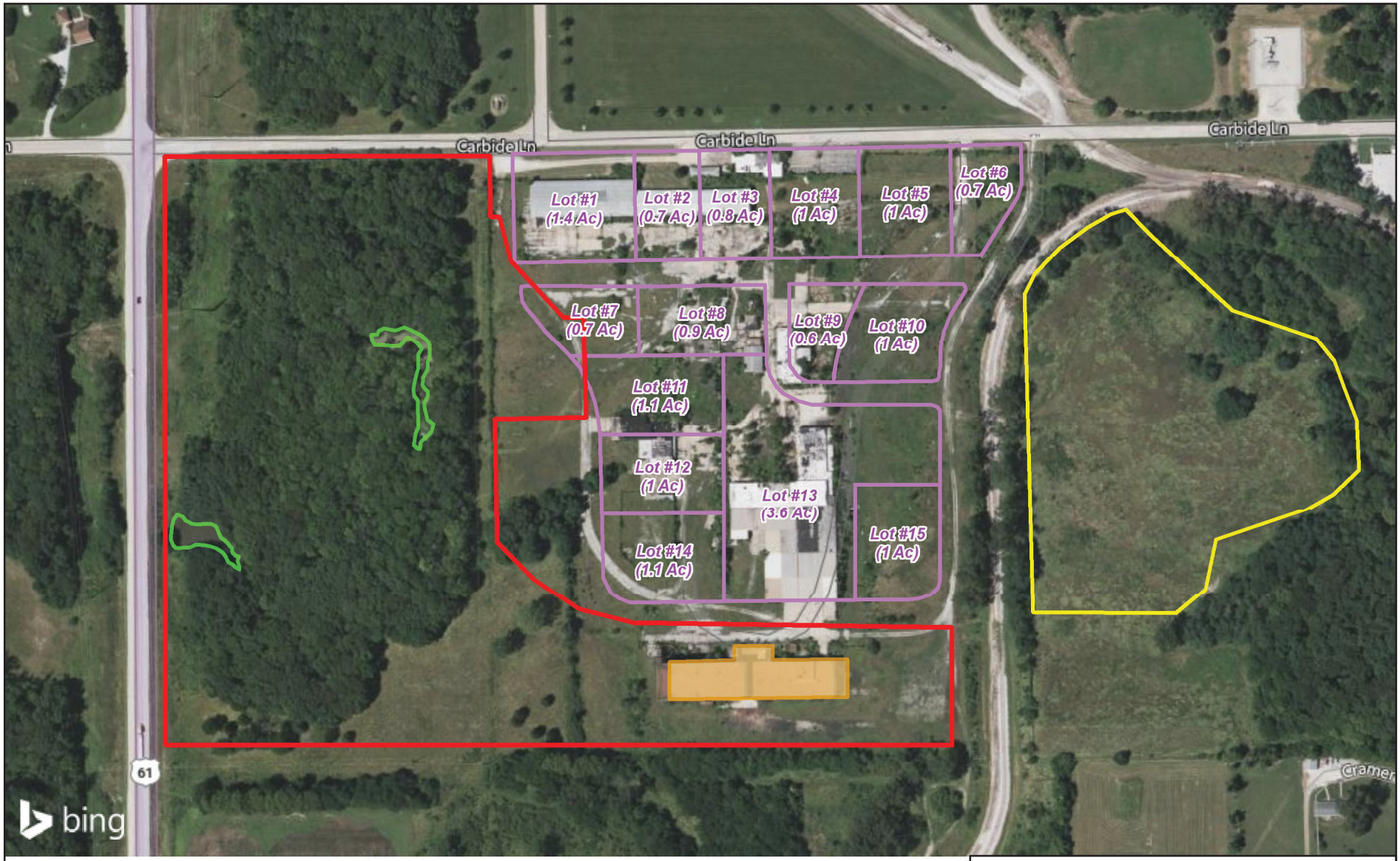
TOEROEK ASSOCIATES, INC.

Date: 2/28/2023 Drawn By: Nick Wiederholt Project No: 103P65210190.16.02

X:\P65210190\16.02\Projects\mxd\Figure1.mxd

FIGURE 2

SITE LAYOUT MAP



Legend

- Boundary of the site
- Foundry
- Potential dumping site
- Landfill (Closed in 1989)
- Sampling Lot - Phase II 2020 (Impact 7G)

N

0 150 300

Feet

Source: ESRI, ArcGIS Online, Bing Maps Hybrid, 2011; Lee County Iowa, Web Mapping Application, 2016

Elkem Carbide Site
365 Carbide Lane
Keokuk, Iowa

Figure 2

Site Layout Map

TETRA TECH

TOEROEK ASSOCIATES, INC.

Date: 2/28/2023 Drawn By: Nick Wiederholt Project No: 103P65210190.16.02

X:\P\652\10190\16.02\Projects\mxd\Figure2.mxd

FIGURE 3

SAMPLE LOCATION MAP

Legend

- DPT soil sample location
- Surface water sample location
- Drainage swale
- Soap Creek
- Boundary of the site
- Decision unit boundary (Previously sampled by Tetra Tech, Inc. in 2016 for Phase II TBA)
- Decision unit boundary (Sampled by the Toeroek Team in November 2023)
- Foundry
- Potential dumping site

Footnotes:
DPT: Direct-push technology
DU: Decision unit
SB: Soil boring
SW: Surface water
TBA: Targeted Brownfields Assessment

N

0 125 250

Feet

Source: ESRI, ArcGIS Online, Bing Maps

Elkem Carbide Site
365 Carbide Lane
Keokuk, Iowa

Figure 3
Sample Location Map

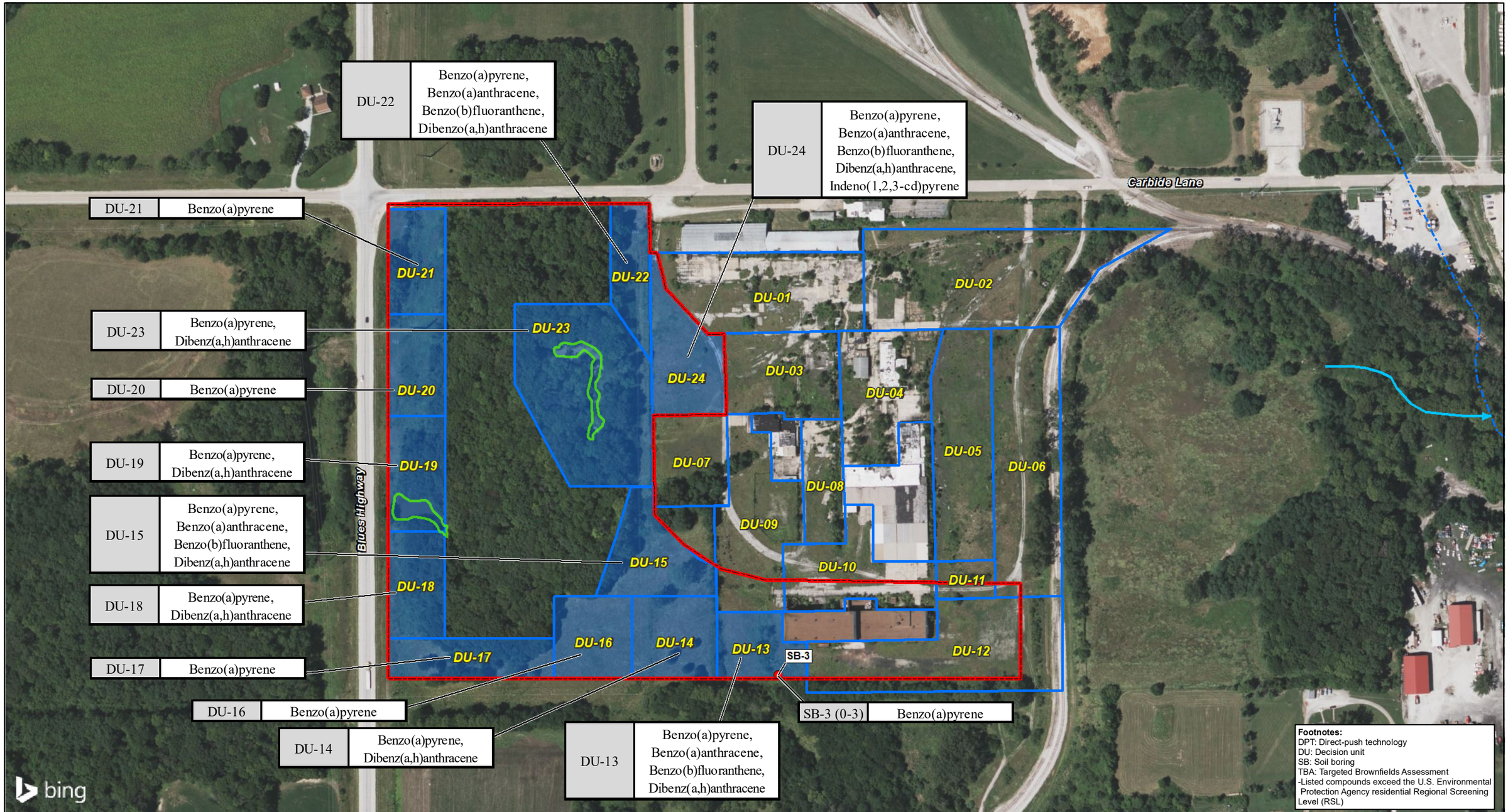
TETRA TECH
TOEROEK ASSOCIATES, INC.

Date: 1/23/2024 Drawn By: Susmita Shrestha Project No: 103P65210190.16.03

X:\P\65210190\16\02\Projects\mxd\Figure3_012324.mxd

FIGURE 4

SEMIVOLATILE ORGANIC COMPOUNDS EXCEEDANCE MAP



Footnotes:
DPT: Direct-push technology
DU: Decision unit
SB: Soil boring
TBA: Targeted Brownfields Assessment
-Listed compounds exceed the U.S. Environmental Protection Agency residential Regional Screening Level (RSL)

Legend

- DPT soil sample location
- Drainage swale
- Soap Creek
- Boundary of the site
- Decision unit boundary (Previously sampled by Tetra Tech, Inc. in 2016 for Phase II TBA)
- Decision unit boundary (Sampled by the Toeroek Team in November 2023)
- Potential dumping site

N

0 125 250

Feet

Source: ESRI, ArcGIS Online, Bing Maps

Elkem Carbide Site
365 Carbide Lane
Keokuk, Iowa

Figure 4
Semivolatile Organic Compounds Exceedance Map

TETRA TECH
TOEROEK ASSOCIATES, INC.

Date: 1/24/2024 Drawn By: Susmita Shrestha Project No: 103P65210190.16.03

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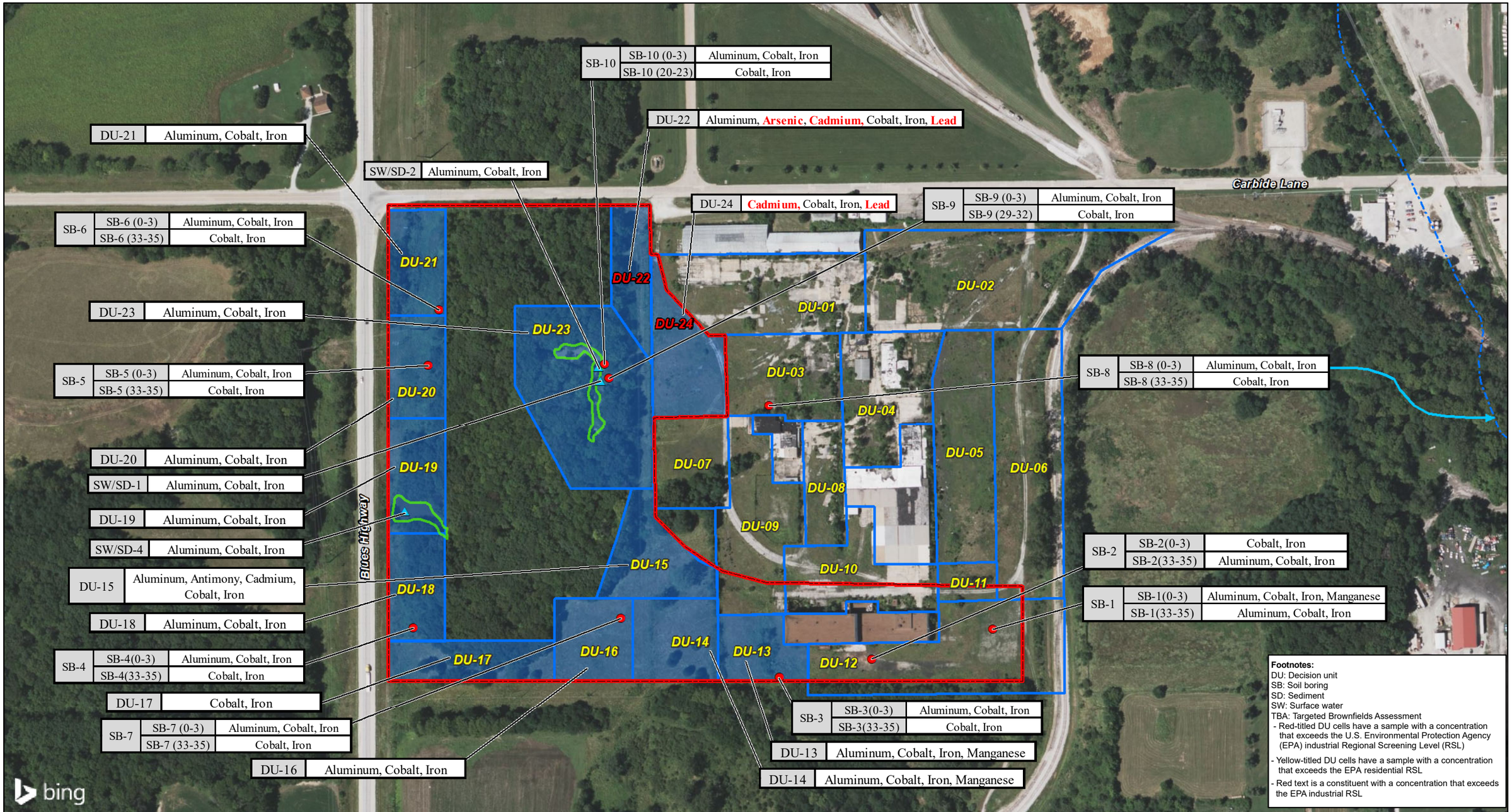
FIGURE 5

METALS EXCEEDANCE MAP



Footnotes:
DU: Decision unit
SB: Soil boring
SD: Sediment
SW: Surface water
TBA: Targeted Brownfields Assessment
- Red-titled DU cells have a sample with a concentration that exceeds the U.S. Environmental Protection Agency (EPA) industrial Regional Screening Level (RSL)
- Yellow-titled DU cells have a sample with a concentration that exceeds the EPA residential RSL
- Red text is a constituent with a concentration that exceeds the EPA industrial RSL

Legend
- DPT soil sample location
- Surface water sample location
- Drainage swale
- Soap Creek
- Boundary of the site
- Decision unit boundary (Previously sampled by Tetra Tech, Inc. in 2016 for Phase II TBA)
- Decision unit boundary (Sampled by the Toeroek Team in November 2023)
- Potential dumping site

N

0 125 250
Feet

Source: ESRI, ArcGIS Online, Bing Maps

Elkem Carbide Site
365 Carbide Lane
Keokuk, Iowa

Figure 5
Metals Exceedance Map

TETRA TECH
TOEROEK ASSOCIATES, INC.

Date: 1/24/2024 Drawn By: Susmita Shrestha Project No: 103P65210190.16.03

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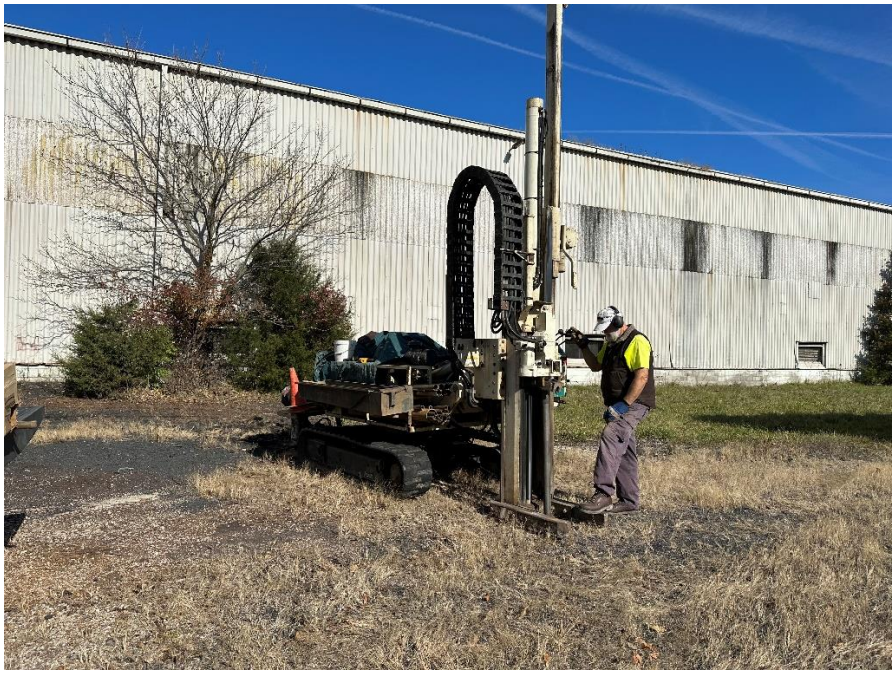
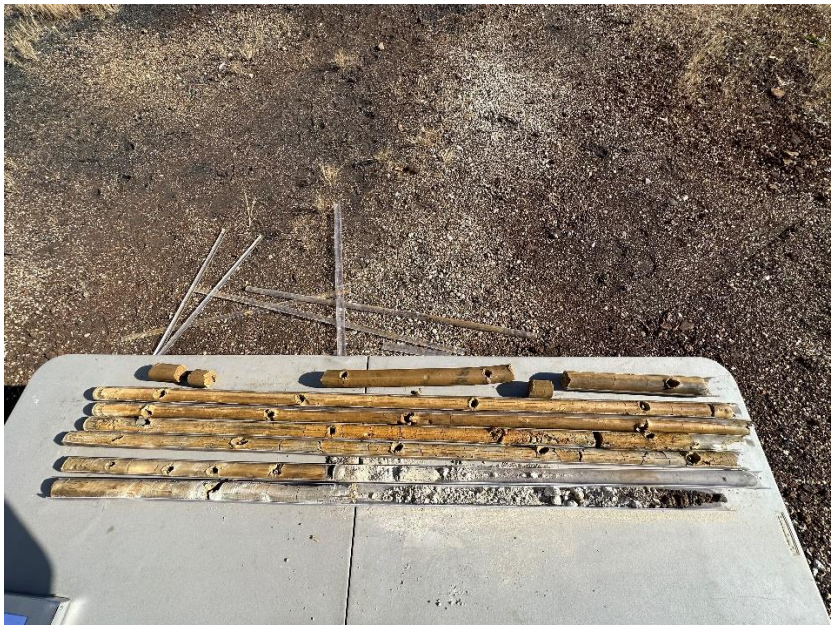
APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

Phase II Environmental Site Assessment
Photographic Documentation
Elkem Carbide Site – Keokuk, Iowa



SUBTASK NO. 16	DESCRIPTION	This photograph shows the direct-push technology (DPT) rig at soil boring location (SB)-2.	1
	CLIENT	U.S. Environmental Protection Agency (EPA)	DATE: 11/7/23
DIRECTION: North	PHOTOGRAPHER	Macy La Masney	



SUBTASK NO. 16	DESCRIPTION	This photograph shows the SB-2 soil cores.	2
	CLIENT	EPA	Dat:e11/7/23
DIRECTION: Southeast	PHOTOGRAPHER	Macy La Masney	

SUBTASK NO. 16	DESCRIPTION	This photograph shows the DPT rig at SB-4.	3
	CLIENT	EPA	DATE: 11/8/23
DIRECTION: Southwest	PHOTOGRAPHER	Macy La Masney	

SUBTASK NO. 16	DESCRIPTION	This photograph shows collection of a surface water sample.	4
	CLIENT	EPA	DATE: 11/8/23
DIRECTION: Northwest	PHOTOGRAPHER	Macy La Masney	

Phase II Environmental Site Assessment
Photographic Documentation
Elkem Carbide Site – Keokuk, Iowa

SUBTASK NO. 16	DESCRIPTION	This photograph shows collection of a sample at surface water location (SW)-2.	5
	CLIENT	EPA	DATE: 11/8/23
DIRECTION: North	PHOTOGRAPHER	Macy La Masney	

APPENDIX C

LOGBOOK AND SOIL BORING LOGS

11/6/23 Elkem Carbide

0900 M. La Masney and G. Jay leaving KC office for the site in Keokuk, IA.

1330 Arrive on-site. Begin site reconnaissance for phase 1 ESA. Begin hazardous materials visual assessment.

1650 Leave the site for hotel. No further work today, end of day.

ML
11/6/23

11/7/23 Elkem Carbide

0800 M. La Masney and G. Jay arrive on-site and meet with someone from the City of Keokuk to unlock the main gate. Utility locators were called and will be arriving. Locators cleared sampling locations, but want to be on-site for the western-most borings, likely tomorrow.

0925 Begin SB-1. Coordinates: 40.4184975, -91.4203296.

1000 Collected sample SB-1 (0-3)

1015 Collected sample SB-1 (33-35)
NO PID readings at this location. Groundwater not encountered, PVC set. will check PVC later.

1110 Begin SB-2. Coordinates: 40.4182994, -91.4214759

1145 Collected sample SB-2 (0-3)

1300 Collected sample SB-2 (33-35) and sample SB-2 (33-35) DUP
NO PID readings at this location. Groundwater not encountered, PVC set. will check later.

11/7/23 Elkem carbide

1340 Begin SB-3. Coordinates: 40.4181807, -91.4223439

1400 Collected sample SB-3(0-3)

1515 Collected sample SB-3(33-35)

NO PID readings at this location. Groundwater not encountered at this location. PVC set. will check PVC later.

During phase 1 site reconnaissance, temporary wells were observed from previous sampling (installation date unknown). Due to lack of groundwater at borings SB-1, -2, and -3, depth to water was measured in select temporary wells to determine if groundwater ~~was~~ is present. Depth to water was observed at approximately 6 ft bgs.

1600 No further work today, end of day. ML

ML 11/7/23

11/8/23 Elkem Carbide

0800 M. La Masney and G. Jay arrive on-site with plains. Checking PVC at borings SB-1, -2, and -3. Groundwater has not accumulated at any of the borings. PVC removed, borings filled with bentonite.

1000 Boring locations on the western edge of the property have been cleared by utilities. Caution will be taken to stay 25-30 ft away from the high power gas line.

1020 Begin SB-4. Coordinates: 40.4185827, -91.4257745

1050 Collected Sample SB-4(0-3)

1125 Collected sample SB-4(33-35)

NO PID readings at this location. Groundwater not encountered at this location, PVC not set at this location.

1200 Begin SB-5. Coordinates: 40.4204637, -91.4255978

1230 Collected sample SB-5(0-3)

1250 Collected Sample SB-5(33-35)

11/8/23 Elkem Carbide

NO PID readings at this location. Groundwater not encountered at this location, no PVC set.

1306 Begin SB-6. Coordinates: 40.4208590, -91.4254818

1330 Collected Sample SB-6(0-3)

1350 Collected sample SB-6(33-35)

NO PID readings at this location. Groundwater not encountered at this location. NO PVC Set.

1420 Begin SB-7. Coordinates: 40.4186253, -91.4238252

1440 Collected Sample SB-7(0-3)

1505 Collected Sample SB-7(33-35)

NO PID readings at this location. Groundwater not encountered at this location. NO PVC set.

1600 Samples collected already placed into sample coolers with ice and taken to Fedex. NO trip blanks were provided from the lab, so no trip blanks will be analyzed. NO further work today, end of day.

mc 11/8/23

11/9/23 Elkem Carbide

0800 Arrive on-site with plains and discuss sampling locations.

0820 Begin SB-8. Coordinates: 40.4201336, -91.4239378

0900 Collected sample SB-8(0-3) PID readings of 3.3 ppm at ~31.5 ft bgs, 24.1 ppm at ~33 ft bgs, and 335 ppm at ~35 ft bgs.

0925 Collected Sample SB-8(33-35) Groundwater not encountered at this location. NO PVC set at this location.

0950 Begin SB-9. Coordinates: 40.4203516, -91.4238959.

1005 Collected sample SW-1 from eastern pond. (40.4203332, -91.4239774)

1020 Collected Sample SW-2 from eastern pond. (40.4204341, -91.4239911)

1040 Collected Sample SB-9(0-3)

1105 Collected Sample SB-9(29-32) Due to highest PID reading at ~30 ft bgs — 84.7 ppm. NO groundwater encountered at this location. NO PVC set.

1110 Begin SB-10. Coordinates: 40.4204499, -91.4239402.

11/9/23 Elkem Carbide

1145 Collected sample SB-10(0-3)

1210 collected sample SB-10(20-23) due to highest PID reading at ~21 ft bgs — 77.3 ppm. No groundwater encountered at this location. No PVC set.

1430 Collected sample DU-24-1.

1440 collected sample DU-24-2.

1450 collected sample DU-24-3.

1600 Packed coolers with fresh ice and taken to fedex.

1715 collected sample DU-13-1

1725 Collected sample DU-13-2.

1735 collected sample DU-13-3.

1750 No further work today, end of day. ML

1800 collected sample FB-1.

ML
11/9/23

11/10/23 Elkem Carbide

0730 M. LaMasney and G. Jay arrive on-site.

0825 Collected sample DU-14-1

0835 Collected sample DU-14-2

0845 Collected sample DU-14-3

0855 Collected sample DU-15-1

0905 Collected sample DU-15-2

0915 Collected sample DU-15-3

0925 Collected sample DU-16-1

0935 Collected sample DU-16-2

0945 Collected sample DU-16-3

1005 Collected sample DU-17-1

1015 Collected sample DU-17-2

1025 Collected sample DU-17-3.

1115 Collected sample DU-18-1

1125 Collected sample DU-18-2

1135 Collected sample DU-18-3

1250 Collected sample DU-19-1

1300 Collected sample DU-19-2

1310 Collected sample DU-19-3

1300 Collected sample FB-2

1300 Collected sample SW-3

1310 Collected sample SW-4

1320 Collected sample SD-3

1330 Collected sample SD-4

11/10/23 Elkem Carbide

1410 Collected Sample DU-20-1
1420 Collected Sample DU-20-2
1430 Collected Sample DU-20-3
1440 Collected Sample DU-21-1
1450 Collected Sample DU-21-2
1500 Collected Sample DU-21-3
1515 Collected Sample DU-22-1
1525 Collected Sample DU-22-2
1535 Collected Sample DU-22-3
1545 Collected Sample SD-1
1545 Collected Sample DU-23-1
1555 Collected Sample DU-23-2
1600 Collected Sample SD-2
1605 Collected Sample DU-23-3
1630 Leaving the site for Fedex Ship center in Quincy, FL.
1715 Arrive at Casey's in Quincy to add additional ice to sample coolers and tape them for delivery.
1815 Arrive at Fedex Ship center in Quincy. Due to time constraints, only the surface water and sediment sample cooler was able to be

Shipped out. Remaining coolers will be held at KC office and taken to fedex on Monday, November 13.
2300 Arrive at KC office. Rental vehicle will be returned tommorrow morning. No further work today, end of day.

MZ
11/10/23

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-1
Date Drilled (Start/Finish): 11/7/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. La Masney
Project Number:
Weather: 60°F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				gravel Soft, silty, brown clay ↓
			0	10				hard silty, brown clay hard silty brown and grey clay
			0	15				↓ minor staining present ~14 ft bgs
			0	20				~~fine~~ hard silty brown and grey clay with fine grained sand. ↓
			0	25				brown/orange soft silty clay with fine grained sand. Slightly moist. ↓
			0	30				↓ 35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-2
Date Drilled (Start/Finish): 11/7/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMasney
Project Number:
Weather: Sunny, 63°F

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				gravel / rock Soft, silty, brown clay
			0	10				↓
			0	15				hard silty brown and grey clay ↓
			0	20				hard silty brown and grey clay with fine grained sand ↓
			0	25				Soft silty brown clay with fine grained sand. ↓
			0	30				↓ hole collapsed at ~28-29 ft bgs ↳ 35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-3
Date Drilled (Start/Finish): 11/7/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMasney
Project Number:
Weather: 65°F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				soft silty brown clay
			0	10				layer of fine and medium grained sand at ~7.8 ft bgs; hard silty clay, brown and grey, with fine grained sand.
			0	15				~~soft~~ soft silty brown clay with fine grained sand
			0	20				
			0	25				
			0	30				hard silty brown clay with fine grained sand. → 35 ft bgs

Boring Log Form

Site Name: Elkem Carbide
Boring Number: SB-4
Date Drilled (Start/Finish): 11/8/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. La Masney
Project Number:
Weather: 70 °F Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				Brown topsoil hard brown/grey silty clay.
			0	10				slightly moist
			0	15				light grey slightly moist hard silty clay with fine grained sand some brown/red clay
			0	20				slightly moist hard silty grey and brown clay with fine grained sand.
			0	25				
			0	30				35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-5
Date Drilled (Start/Finish): 11/8/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. La Masney
Project Number:
Weather: 70°F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				Grey hard dry clay. silty with some fine grained sand. ↓
			0	10				↓ hard slightly moist silty grey clay ↓
			0	15				↓ hard slightly moist silty grey and brown with fine grained sand. ↓
			0	20				brown hard silty moist clay with fine grained sand. ↓
			0	25				↓
			0	30				↓ → 35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-6
Date Drilled (Start/Finish): 11/8/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMasney
Project Number:
Weather: 70 °F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				hard silty dry clay with fine grained sand. Brown. ↓
			0	10				↓ hard slightly moist silty clay - grey ↓
			0	15				↓ - with fine grained sand. ↓
			0	20				hard slightly moist silty clay with fine grained sand. - brown ↓
			0	25				↓
			0	30				↓ → 35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-7
Date Drilled (Start/Finish): 11/8/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. La Masney
Project Number:
Weather: 64 °F, cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				Brown hard moist silty clay with some fine grained sand. ↓
			0	10				grey and brown soft, moist, silty clay with some fine grained sand. ↓
			0	15				grey and brown hard, moist, silty clay ↓
			0	20				↓ with fine grained sand ↓
			0	25				↓ ↓
			0	30				grey and brown hard, moist, sandy clay (fine grained sand) ↓ → 35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-8
Date Drilled (Start/Finish): 11/9/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMasney
Project Number:
Weather: 48° F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				hard silty slightly moist brown clay. ↓
			0	10				brown and grey ↓
			0	15				hard silty slightly moist clay with some fine grained sand - brown and grey ↓
			0	20				hard silty slightly moist sandy clay - brown and grey ↓
			0	25				↓
			0	30				↓ 3.3 @ ~31.5 ft bgs 24.1 @ ~33 ft bgs 33.5 ppm @ ~35 ft bgs

Boring Log Form

Site Name: Elkem carbide
Boring Number: SB-9
Date Drilled (Start/Finish): 11/9/23
Drilling Method: plains
Drilling Company: DPT
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMesney
Project Number:
Weather: 48 °F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			28.9					hard slightly moist silty clay - brown
			9.8					
			18.1	5				
			15.7					soft moist brown and grey clay silty
			5.6					
			14.9					
			6.0	10				
			29.2					hard moist silty brown and grey clay
			3.4					
			5.5					
			2.3					
			13.2	15				
			0.9					
			2.6					
			0.1					
			0					
			5.5	20				
			9.5					hard moist silty and sandy brown and grey clay.
			5.4					
			0					
			0		PID			
			16.5	25	84.7 50			
			10.9		1.6			
			8.6		17.9			
			0.1		0.7			
			1.3		2.6			
				30	0 55			35 ft bgs

Boring Log Form

Site Name: Elkem Carbide
Boring Number: SB-10
Date Drilled (Start/Finish): 11/9/23
Drilling Method: DPT
Drilling Company: Plains
Elevation:
Total Depth: 35 ft bgs
Coordinates:
Depth to Water: N/A
Geologist: M. LaMasney
Project Number:
Weather: 54°F, sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm or ppb)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0	5				hard moist silty clay - brown
			0	10				Brown and grey hard moist silty clay soft brown and grey moist silty clay
			0	15				
			2.2 17.3 5.5 1.2 0 0	20 25	PID 30 10.7			Brown and grey hard moist silty clay with fine grained sand. Brown and grey hard moist sandy clay
			26.4 0 0 0	30	35			→ 35 ft bgs

APPENDIX D

ANALYTICAL DATA PACKAGES AND DATA VALIDATION REPORTS

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-1(0-3)		SB-1(33-35)		SB-2(0-3)		SB-2(33-35)		SB-2(33-35) DUP		SB-3(0-3)		SB-3(33-35)		SB-4(0-3)		SB-4(33-35)		SB-5 (0-3)		SB-5 (33-35)		SB-6 (0-3)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Duplicate		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
VOCs – EPA Method 8260 (µg/kg)																											
Acetone				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Benzene	1,200	5,100	56,000	ND	UJ	ND	UJ	**1.39**	J	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Bromoform				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Bromomethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2-Butanone (methyl ethyl ketone)	2,700,000	19,000,000	46,000,000	ND	UJ	ND	UJ	**5.49**	J	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Carbon disulfide				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Carbon tetrachloride				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Chlorobenzene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Chlorodibromomethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Chloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Chloromethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,3-Dichloropropene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dibromo-3-Chloropropane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,3-Dichlorobenzene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,4-Dichlorobenzene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorobromomethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorodifluoromethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichloropropane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Ethylbenzene	5,800	25,000	7,600,000	ND	UJ	ND	UJ	**2.10**	J	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Ethylene Dibromide				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2-Hexanone				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Methyl acetate				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Methylcyclohexane	9,800	41,000	NE	ND	UJ	ND	UJ	**1.73**	J	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Methylene Chloride				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
4-Methyl-2-pentanone				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Methyl tert-butyl ether				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Styrene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Tetrachloroethene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	490,000	4,700,000.00	6,100,000	ND	UJ	ND	UJ	**3.79**		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
trans-1,2-Dichloroethene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
trans-1,3-Dichloropropene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,2,4-Trichlorobenzene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1-Trichloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Trichlorofluoromethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl chloride				ND	UJ	ND	UJ	ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes, Total	58,000	250,000	15,000,000	ND	UJ	ND	UJ	**1.29**	J	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
SVOCs: PAHs – EPA Method 8270 (µg/kg)																											
Acenaphthene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acetophenone				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Anthracene	1,800,000	23,000,000	17,000,000	ND		ND		ND		ND		ND		**72.4**		ND		ND		ND		ND		ND		ND	
Atrazine				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzaldehyde				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]anthracene	1,100	21,000	3,100	ND		ND		ND		ND		ND		**361**		ND		**76.8**		ND		ND		ND		ND	
Benzo[a]pyrene	110	2,100	2,300	ND		ND		**19.9**	J	ND		ND		**382**		ND		**75.7**		ND		ND		ND		**18.0**	J
Benzo[b]fluoranthene	1,100	21,000	3,100	ND		ND		ND		ND		ND		**416**		ND		**62.5**		ND		ND		ND		ND	
Benzo[g,h,i]perylene	NE	NE	170,000	ND		ND		ND		ND		ND		**436**		ND		**72.6**		ND		ND		ND		ND	
Benzo[k]fluoranthene	11,000	210,000	31,000	ND		ND		ND		ND		ND		**86.5**		ND		ND		ND		ND		ND		ND	

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-1(0-3)		SB-1(33-35)		SB-2(0-3)		SB-2(33-35)		SB-2(33-35) DUP		SB-3(0-3)		SB-3(33-35)		SB-4(0-3)		SB-4(33-35)		SB-5 (0-3)		SB-5 (33-35)		SB-6 (0-3)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Duplicate		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1'-Biphenyl				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-chloroethoxy)methane				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-chloroethyl)ether				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
bis (2-chloroisopropyl) ether				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-ethylhexyl) phthalate	39,000	160,000	170,000	ND		ND		**115**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Bromophenyl phenyl ether				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Butyl benzyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Caprolactam				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbazole	NE	NE	120,000	ND		ND		ND		ND		ND		**65.6**	J	ND		ND		ND		ND		ND		ND	
4-Chloroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Chloro-3-methylphenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Chloronaphthalene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Chlorophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Chlorophenyl phenyl ether				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	110,000	2,100,000	310,000	ND		ND		ND		ND		ND		**557**		ND		**147**		ND		ND		ND		ND	
Dibenz(a,h)anthracene	110	2,100	310	ND		ND		ND		ND		ND		**237**		ND		**43.4**	J	ND		ND		ND		ND	
Dibenzofuran				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
3,3'-Dichlorobenzidine				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dichlorophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Diethyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dimethylphenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dimethyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	U	ND	U	ND	U	ND	U	ND	U	ND		ND		ND		ND	U	ND	U	ND	U	ND	U
4,6-Dinitro-2-methylphenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dinitrophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dinitrotoluene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,6-Dinitrotoluene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-octyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Fluoranthene	240,000	3,000,000	23,000,000	ND		ND		ND		ND		ND		**237**		ND		**28.7**	J	ND		ND		ND		ND	
Fluorene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorobutadiene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorocyclopentadiene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	ND		ND		ND		ND		ND		**197**		ND		**45.3**	J	ND		ND		ND		ND	
Isophorone				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	24,000	300,000	230,000	ND		ND		ND		ND		ND		**169**		ND		**30.1**	J	ND		ND		ND		ND	
2-Methylphenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
3 & 4 Methylphenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Naphthalene	2,000	8,600	1,100,000	ND		ND		ND		ND		ND		**97.9**		ND		**16.8**	J	ND		ND		ND		ND	
2-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
3-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nitrobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Nitrophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Nitrophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
N-Nitrosodi-n-propylamine				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
N-Nitrosodiphenylamine				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Pentachlorophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NE	NE	1,700,000	ND		ND		ND		ND		ND		**381**		ND		ND		ND		ND		ND		**15.3**	J
Phenol	1,900,000	25,000,000	18,000,000	ND		ND		**42.8**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Pyrene	180,000	2,300,000	1,700,000	ND		ND		ND		ND		ND		**338**		ND		ND		ND		ND		ND		ND	
2,4,5-Trichlorophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4,6-Trichlorophenol				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-1(0-3)		SB-1(33-35)		SB-2(0-3)		SB-2(33-35)		SB-2(33-35) DUP		SB-3(0-3)		SB-3(33-35)		SB-4(0-3)		SB-4(33-35)		SB-5 (0-3)		SB-5 (33-35)		SB-6 (0-3)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Duplicate		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/7/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023		11/8/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
TEH – Iowa DNR OA-2 (mg/kg)																											
Gasoline				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Diesel				ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Waste Oil	NE	NE	9,400	ND		ND		22.4		ND		ND		33.1		ND		37.1		ND		ND		ND		28.0	
Total Extractable HydrocarboNE	NE	NE	NE	ND	U	ND	U	ND		ND	U	ND	U	34.5	J+	ND	U	39.6	J+	ND	U	ND	U	ND	U	29.3	J+
Metals – EPA Method 6010D (mg/kg)																											
Aluminum (Lee County Average 4.649 ± 0.826)	7,700	110,000	NE	15300		4900		862		4730		4690		11000		5360		11800		5200		15200		5250		14600	
Antimony	3.1	47	NE	ND		ND		ND		ND		ND		1.02	J	ND		0.693	J	ND		ND		ND		ND	
Arsenic (Lee County Average 8.277 ± 1.304)	0.68	3	2	11.1		22.7		3.67		4.02		3.41		5.81		4.21		10.2		6.49		11.0		6.66		5.34	
Barium	1,500	22,000	15,000	154		55.9		10.8	J	46.6		43.3		121		39.8		132		55.6		136		65.8		120	
Beryllium	16	230	110	1.06		0.499	J	ND		0.351	J	0.354	J	0.565		0.405	J	0.678		0.448	J	0.607		0.410	J	0.619	
Cadmium	0.71	10	70	0.288	J	0.341	J	0.289	J	0.205	J	0.196	J	0.246	J	0.153	J	0.167	J	0.208	J	ND		0.209	J	ND	
Chromium	8,500	36,000	190	18.9		12.2		50.5		13.0		11.5		19.2		12.4		16.1		12.8		19.9		11.5		18.5	
Cobalt	2	35	23	19.9		7.94		4.68		5.25		4.69		9.60		5.56		7.36		8.30		7.18		10.6		7.93	
Copper (Lee County Average 14.420 ± 3.396)	310	4,700	3,100	20.5		12.3		31.8		10.3		10.6		18.3		9.27		13.4		11.2		21.9		10.6		19.3	
Iron (Lee County Average 2.117 ± 0.338)	5,500	82,000	NE	22400		28900		21500		11800		11100		16700		12000		17600		16600		22600		14200		18400	
Lead (Lee County Average 18.355 ± 2.624)	400	800	400	20.2		6.02		5.07		5.78		5.36		35.2		6.63		29.1		6.66		13.5		6.68		9.21	
Manganese (Lee County Average 682.588 ± 132.064)	180	2,600	10,000	1230		275		502		168		139		485		203		598		304		150		392		157	
Nickel	NE	NE	1,500	43.0		27.3		43.6		15.1		15.1		24.3		15.2		12.1		20.5		19.4		19.2		17.3	
Selenium (Lee County Average 0.406 ± 0.073)	39	580	NE	ND		ND		ND		ND		ND		0.557	J	ND		0.883	J	ND		ND		ND		ND	
Silver	39	580	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	39	580	350	36.5		23.7		5.86		17.6		16.7		26.5		19.5		33.3		21.8		34.1		19.8		24.7	
Zinc (Lee County Average 51.959 ± 10.003)	2,300	3,500	23,000	66.2		42.0		124		29.3		29.4		59.2		29.5		55.4		34.2		69.3		31.5		61.4	
Mercury	1.1	4.6	23	0.0625	J	0.0223	J	ND		ND		0.0212	J	0.0442	J	ND		0.0652	J	ND		0.0298	J	0.0576	J	0.0321	J

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-6 (33-35)		SB-7 (0-3)		SB-7 (33-35)		SB-8 (0-3)		SB-8 (33-35)		SB-9 (0-3)		SB-9 (29-32)		SB-10 (0-3)		SB-10 (20-23)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/8/2023		11/8/2023		11/8/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
VOCs – EPA Method 8260 (µg/kg)																					
Acetone				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzene	1,200	5,100	56,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromoform				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bromomethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Butanone (methyl ethyl ketone)	2,700,000	19,000,000	46,000,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbon disulfide				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbon tetrachloride				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chlorobenzene				ND		ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	
Chlorodibromomethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform				ND		ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	
Chloromethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
cis-1,3-Dichloropropene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Cyclohexane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dibromo-3-Chloropropane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,3-Dichlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,4-Dichlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorobromomethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dichlorodifluoromethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2-Dichloropropane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Ethylbenzene	5,800	25,000	7,600,000	ND		ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	
Ethylene Dibromide				ND		ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	
2-Hexanone				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl acetate				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylcyclohexane	9,800	41,000	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylene Chloride				ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Methyl-2-pentanone				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl tert-butyl ether				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Tetrachloroethene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toluene	490,000	4,700,000.00	6,100,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
trans-1,2-Dichloroethene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
trans-1,3-Dichloropropene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,2,4-Trichlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,1-Trichloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichlorofluoromethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl chloride				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Xylenes, Total	58,000	250,000	15,000,000	ND		ND		ND		ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	
SVOCs: PAHs – EPA Method 8270 (µg/kg)																					
Acenaphthene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acenaphthylene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Acetophenone				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Anthracene	1,800,000	23,000,000	17,000,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Atrazine				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzaldehyde				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[a]anthracene	1,100	21,000	3,100	ND		**31.6**	**J**	ND		ND		ND		ND		ND		ND		ND	
Benzo[a]pyrene	110	2,100	2,300	ND		**38.1**	**J**	ND		ND		ND		ND		ND		ND		ND	
Benzo[b]fluoranthene	1,100	21,000	3,100	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[g,h,i]perylene	NE	NE	170,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Benzo[k]fluoranthene	11,000	210,000	31,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-6 (33-35)		SB-7 (0-3)		SB-7 (33-35)		SB-8 (0-3)		SB-8 (33-35)		SB-9 (0-3)		SB-9 (29-32)		SB-10 (0-3)		SB-10 (20-23)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/8/2023		11/8/2023		11/8/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
1,1'-Biphenyl				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-chloroethoxy)methane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-chloroethyl)ether				ND		ND		ND		ND		ND		ND		ND		ND		ND	
bis (2-chloroisopropyl) ether				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Bis(2-ethylhexyl) phthalate	39,000	160,000	170,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Bromophenyl phenyl ether				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Butyl benzyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Caprolactam				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Carbazole	NE	NE	120,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Chloroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Chloro-3-methylphenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2-Chloronaphthalene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Chlorophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
4-Chlorophenyl phenyl ether				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chrysene	110,000	2,100,000	310,000	ND		**58.3**		ND		ND		ND		ND		ND		ND		ND	
Dibenz(a,h)anthracene	110	2,100	310	ND		**23.6**	**J**	ND		ND		ND		ND		ND		ND		ND	
Dibenzofuran				ND		ND		ND		ND		ND		ND		ND		ND		ND	
3,3'-Dichlorobenzidine				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dichlorophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Diethyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dimethylphenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Dimethyl phthalate				ND		ND	UJ	ND		ND		ND		ND		ND		ND		ND	
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	U	ND	U	ND		ND	U	ND	U	ND	U	ND	U	ND	U	ND	U
4,6-Dinitro-2-methylphenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dinitrophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2,4-Dinitrotoluene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,6-Dinitrotoluene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Di-n-octyl phthalate				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Fluoranthene	240,000	3,000,000	23,000,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Fluorene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorobutadiene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachlorocyclopentadiene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Hexachloroethane				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	ND		**25.5**	**J**	ND		ND		ND		ND		ND		ND		ND	
Isophorone				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylnaphthalene	24,000	300,000	230,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Methylphenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
3 & 4 Methylphenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Naphthalene	2,000	8,600	1,100,000	ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND	
3-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-Nitroaniline				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Nitrobenzene				ND		ND		ND		ND		ND		ND		ND		ND		ND	
2-Nitrophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
4-Nitrophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
N-Nitrosodi-n-propylamine				ND		ND		ND		ND		ND		ND		ND		ND		ND	
N-Nitrosodiphenylamine				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Pentachlorophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Phenanthrene	NE	NE	1,700,000	ND		**63.5**		ND		ND		ND		ND		ND		ND		ND	
Phenol	1,900,000	25,000,000	18,000,000	ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
Pyrene	180,000	2,300,000	1,700,000	ND		**39.8**	**J**	ND		ND		ND		ND		ND		ND		ND	
2,4,5-Trichlorophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	
2,4,6-Trichlorophenol				ND	UJ	ND		ND		ND		ND		ND		ND		ND		ND	

TABLE D-1: SURFACE AND SUBSURFACE SOIL BORING SAMPLE RESULTS

			Sample Number:	SB-6 (33-35)		SB-7 (0-3)		SB-7 (33-35)		SB-8 (0-3)		SB-8 (33-35)		SB-9 (0-3)		SB-9 (29-32)		SB-10 (0-3)		SB-10 (20-23)	
			Matrix:	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/8/2023		11/8/2023		11/8/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023		11/9/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
TEH – Iowa DNR OA-2 (mg/kg)																					
Gasoline				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Diesel				ND		ND		ND		ND		ND		ND		ND		ND		ND	
Waste Oil	NE	NE	9,400	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Total Extractable HydrocarboNE	NE	NE	NE	ND	U	**18.7**	**J+**	ND	U	**7.78**	**J Z**	ND		**8.87**	**J Z**	ND		**7.6**	**J Z**	ND	
Metals – EPA Method 6010D (mg/kg)																					
Aluminum (Lee County Average 4.649 ± 0.826)	7,700	110,000	NE	**5450**		**15700**		**4800**		**21300**		**5670**		**20200**		**4770**		**19600**		**7140**	
Antimony	3.1	47	NE	ND		ND		ND		ND		ND		ND		ND		**0.408**		ND	
Arsenic (Lee County Average 8.277 ± 1.304)	0.68	3	2	**4.61**		**8.78**		**5.41**		**11.7**		**3.75**		**9.39**		**4.29**		**8.99**		**4.49**	
Barium	1,500	22,000	15,000	**48.5**		**156**		**89.5**		**211**		**42.1**		**235**		**61.3**		**321**		**128**	
Beryllium	16	230	110	**0.420**	**J**	**0.964**		**0.409**	**J**	**0.832**		**0.342**	**J**	**0.924**		**0.373**	**J**	**0.764**		**0.395**	**J**
Cadmium	0.71	10	70	**0.161**	**J**	ND		**0.101**	**J**	ND		**0.194**	**J**	ND		**0.128**	**J**	ND		ND	
Chromium	8,500	36,000	190	**12.6**		**19.0**		**12.1**		**22.5**		**18.9**		**20.7**		**12.2**		**21.4**		**13.0**	
Cobalt	2	35	23	**5.09**		**4.29**		**7.72**		**5.77**		**7.82**		**7.95**		**6.69**		**8.29**		**12.5**	
Copper (Lee County Average 14.420 ± 3.396)	310	4,700	3,100	**11.0**		**20.2**		**9.96**		**18.8**		**11.2**		**18.6**		**9.89**		**17.3**		**8.08**	
Iron (Lee County Average 2.117 ± 0.338)	5,500	82,000	NE	**13900**		**21400**		**14200**		**24900**		**12100**		**22500**		**13100**		**23000**		**12400**	
Lead (Lee County Average 18.355 ± 2.624)	400	800	400	**5.78**		**8.04**		**4.89**		**14.3**		**5.43**		**12.3**		**6.50**		**9.38**		**11.2**	
Manganese (Lee County Average 682.588 ± 132.064)	180	2,600	10,000	**190**		**138**		**259**		**247**		**208**		**453**		**280**		**256**		**286**	
Nickel	NE	NE	1,500	**18.8**		**23.3**		**16.8**		**18.6**		**22.3**		**24.3**		**18.4**		**19.1**		**15.3**	
Selenium (Lee County Average 0.406 ± 0.073)	39	580	NE	ND		ND		ND		**0.937**	**J**	ND		ND		ND		ND		ND	
Silver	39	580	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	39	580	350	**20.6**		**31.0**		**17.5**		**34.0**		**20.0**		**30.1**		**18.9**		**30.4**		**14.8**	
Zinc (Lee County Average 51.959 ± 10.003)	2,300	3,500	23,000	**32.2**		**77.9**		**29.2**		**74.8**		**32.2**		**75.4**		**31.0**		**66.3**		**24.0**	
Mercury	1.1	4.6	23	**0.0227**	**J**	**0.0479**	**J**	ND		**0.0601**	**J**	ND		**0.0542**	**J**	ND		**0.0504**	**J**	**0.145**	

Notes:

Bold	Detected analyte
	Exceedance of an RSL or SWS and, for metals, of the county average background + one standard deviation (U.S. Geological Survey 2004)
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
EPA	U.S. Environmental Protection Agency
Ind	Industrial
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J+	Qualified as estimated, biased high
ND	Not detected
NE	Not established
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
Res	Residential
SB	Soil boring
SWS	Statewide Standard (IDNR 2023b)
TEH	Total extractable hydrocarbons
THQ	Total hazard quotient
TR	Total cancer risk
U	Qualified as non-detect at the reporting limit
UJ	The analyte was analyzed for but was not detected and the reported quantitation limit (QL) is approximate and may be inaccurate
VOC	Volatile organic compound
Z	Chromatographic response does not resemble a typical fuel pattern

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-13-1		DU-13-2		DU-13-3		DU-14-1		DU-14-2		DU-14-3		DU-15-1		DU-15-2		DU-15-3		DU-16-1		DU-16-2		DU-16-3		DU-17-1	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/9/2023		11/9/2023		11/9/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
SVOCs: PAHs – EPA Method 8270 (µg/kg)																													
Acenaphthene	360,000	4,500,000	3,400,000	16.2	J	37.2	J	248	J	ND	UJ	ND	UJ	ND	UJ	489	J	211	J	106	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acenaphthylene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acetophenone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Anthracene	1,800,000	23,000,000	17,000,000	97.7	J	165	J	611	J	54.8	J	58.1	J	49.9	J	911	J	476	J	210	J-	36.5	J-	26.7	J-	23.0	J-	19.5	J-
Atrazine	2,400	10,000	2,100,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzaldehyde	170,000	820,000	3,100	ND	UJ	ND	UJ	68.6	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzo[a]anthracene	1,100	21,000	3,100	630	J	804	J	1850	J	360	J	427	J	359	J	1820	J	1420	J	516	J-	251	J-	180	J-	152	J-	123	J-
Benzo[a]pyrene	110	2,100	2,300	560	J	786	J	1650	J	289	J	355	J	276	J	1670	J	1150	J	509	J-	211	J-	149	J-	131	J-	122	J-
Benzo[b]fluoranthene	1,100	21,000	3,100	648	J	856	J	2210	J	335	J	392	J	303	J	2460	J	1600	J	554	J-	208	J-	143	J-	123	J-	97.8	J-
Benzo[g,h,i]perylene	NE	NE	170,000	596	J	845	J	1360	J	380	J	402	J	318	J	1390	J	1040	J	454	J-	250	J-	178	J-	150	J-	141	J-
1,1'-Biphenyl	4,700	20,000	31,000,000	ND	UJ	ND	UJ	48.1	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	38.5	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethoxy)methane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethyl)ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
bis (2-chloroisopropyl) ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-ethylhexyl) phthalate	39,000	160,000	170,000	65.0	J	106	J	95.2	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Bromophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Butyl benzyl phthalate	290,000	1,200,000	1,300,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Caprolactam				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Carbazole	NE	NE	120,000	70.8	J	107	J	356	J	42.5	J	51.5	J	42.6	J	445	J	255	J	91.9	J-	31.4	J-	ND	UJ	ND	UJ	ND	UJ
4-Chloroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloro-3-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chloronaphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chlorophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Chrysene	110,000	2,100,000	310,000	977	J	1120	J	2180	J	701	J	815	J	666	J	2020	J	1820	J	784	J-	489	J-	350	J-	290	J-	252	J-
Dibenz(a,h)anthracene	110	2,100	310	293	J	444	J	715	J	157	J	173	J	141	J	374	J	361	J	138	J-	106	J-	69.8	J-	65.4	J-	55.4	J-
Dibenzofuran	7,800	120,000	76,000	ND	UJ	29.2	J	193	J	ND	UJ	ND	UJ	ND	UJ	289	J	152	J	59.6	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3,3'-Dichlorobenzidine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Diethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dimethylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Dimethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	UJ	28.3	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	39.4	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4,6-Dinitro-2-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,6-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-octyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Fluoranthene	240,000	3,000,000	23,000,000	500	J	796	J	2970	J	191	J	232	J	167	J	4680	J	2500	J	994	J-	117	J-	89.6	J-	71.4	J-	53.2	J-
Fluorene	240,000	3,000,000	230,000	21.8	J	38.6	J	257	J	ND	UJ	16.9	J	15.0	J	461	J	226	J	89.6	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobutadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorocyclopentadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachloroethane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	255	J	358	J	762	J	161	J	166	J	141	J	931	J	602	J	243	J-	108	J-	75.9	J-	67.6	J-	57.6	J-
Isophorone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Methylnaphthalene	24,000	300,000	230,000	227	J	288	J	540	J	143	J	170	J	135	J	150	J	252	J	120	J-	98.1	J-	69.0	J-	57.2	J-	58.7	J-
2-Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3 & 4 Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	47.9	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	45.2	J	ND	UJ
Naphthalene	2,000	8,600	1,100,000	128	J	176	J	588	J	79.3	J	94.5	J	74.4	J	264	J	243	J	81.4	J-	50.2	J-	41.5	J-	34.1	J-	33.3	J-
2-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Nitrobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodi-n-propylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodiphenylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Pentachlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Phenanthrene	NE	NE	1,700,000	672	J	791	J	2620	J	748	J	834	J	674	J	3990	J	2690	J	1170	J-	541	J-	366	J-	304	J-	305	J-
Phenol	1,900,000	25,000,000	18,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-13-1		DU-13-2		DU-13-3		DU-14-1		DU-14-2		DU-14-3		DU-15-1		DU-15-2		DU-15-3		DU-16-1		DU-16-2		DU-16-3		DU-17-1	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/9/2023		11/9/2023		11/9/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Pyrene	180,000	2,300,000	1,700,000	**714**	J	**902**	J	**2690**	J	**450**	J	**587**	J	**493**	J	**3930**	J	**2530**	J	**1040**	J-	**359**	J-	**262**	J-	**212**	J-	**170**	J-
2,4,5-Trichlorophenol	630,000	8,200,000	6,100,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4,6-Trichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Metals – EPA Method 6010D (mg/kg)																													
Aluminum (Lee County Average 4.649 ± 0.826)	7,700	110,000	NE	**9780**		**7020**		**7090**		**9770**		**9490**		**8600**		**8100**		**7070**		**7090**		**6210**		**7550**		**7510**		**6350**	
Antimony	3.1	47	NE	**1.10**	J	ND		ND		**1.19**	J	**1.19**	J-	**0.709**	J	**2.50**		**3.50**		**3.22**		**0.745**	J	**0.616**	J	**0.561**	J	**0.601**	J
Arsenic (Lee County Average 8.277 ± 1.304)	0.68	3	1.90	**9.39**		**6.29**		**6.01**		**9.79**		**8.19**		**7.79**		**7.26**		**7.82**		**6.93**		**6.56**		**6.85**		**5.81**		**6.70**	
Barium	1,500	22,000	15,000	**228**		**123**		**97.2**		**202**		**178**		**145**		**157**		**143**		**159**		**129**		**145**		**129**		**125**	
Beryllium	16	230	110	**0.670**		**0.426**		**0.363**	J	**0.620**		**0.585**		**0.556**		**0.480**		**0.461**		**0.473**		**0.464**		**0.529**		**0.499**		**0.472**	
Cadmium	0.71	10	70	**0.643**		**0.478**		**0.454**		**0.339**	J	**0.330**	J	**0.272**	J	**0.554**		**0.930**		**1.47**		**0.197**	J	**0.255**	J	**0.236**	J	**0.191**	J
Chromium	8,500	36,000	190	**27.7**		**38.7**		**43.4**		**17.4**		**16.0**		**15.1**		**14.2**		**14.0**		**14.8**		**11.2**		**13.6**		**14.0**		**10.9**	
Cobalt	2	35	23	**19.8**		**10.7**		**8.10**		**12.1**		**11.6**		**8.72**		**6.84**		**5.33**		**7.04**		**6.06**		**8.44**		**6.05**		**5.98**	
Copper (Lee County Average 14.420 ± 3.396)	310	4,700	3,100	**17.8**		**24.9**		**26.7**		**12.9**		**13.5**		**11.5**		**22.3**		**25.1**		**18.4**		**8.36**		**10.7**		**11.0**		**8.23**	
Iron (Lee County Average 2.117 ± 0.338)	5,500	82,000	NE	**18500**		**17000**		**20700**		**16300**		**14700**		**13300**		**13000**		**12800**		**11800**		**10700**		**12000**		**11800**		**11000**	
Lead (Lee County Average 18.355 ± 2.624)	400	800	400	**42.6**		**24.1**		**21.7**		**52.1**		**42.2**		**40.7**		**112**		**152**		**158**		**32.9**		**33.6**		**25.6**		**26.9**	
Manganese (Lee County Average 682.588 ± 132.064)	180	2,600	10,000	**1720**		**627**		**396**		**1300**		**1030**		**686**		**612**		**572**		**808**		**716**		**709**		**468**		**642**	
Nickel	NE	NE	1,500	**34.1**		**49.0**		**53.4**		**16.6**		**15.7**		**13.5**		**12.9**		**12.6**		**13.7**		**10.0**		**13.7**		**14.5**		**9.30**	
Selenium (Lee County Average 0.406 ± 0.073)	39	580	NE	ND		**0.545**	J	ND		**0.936**	J	**0.997**	J	**0.853**	J	**0.799**	J	**0.805**	J	**1.00**	J	**0.760**	J	**0.980**	J	**0.594**	J	**0.820**	J
Silver	39	580	NE	ND	U	ND		ND		ND	U	ND		ND		ND	U	ND	U	ND	U	ND		ND		ND		ND	
Vanadium	39	580	350	**32.2**		**20.8**		**19.7**		**34.5**		**30.5**		**29.4**		**27.3**		**26.9**		**25.6**		**25.3**		**25.6**		**23.0**		**25.7**	
Zinc (Lee County Average 51.959 ± 10.003)	2,300	3,500	23,000	**69.0**		**63.6**		**76.1**		**63.8**		**65.4**		**56.1**		**143**		**196**		**195**		**38.8**		**48.9**		**49.7**		**36.9**	
Mercury	1.1	4.6	23	**0.0301**	J	**0.0254**	J	**0.0232**	J	**0.0360**	J	**0.0381**	J	**0.0337**	J	**0.0598**	J	**0.0696**	J	**0.0477**	J	**0.0244**	J	**0.0296**	J	**0.0265**	J	**0.0198**	J

Notes:

Bold	Detected analyte
	Exceedance of an RSL or SWS and, for metals, of the county average background + one standard deviation (U.S. Geological Survey 2004)
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
B	Compound was found in the blank and sample.
EPA	U.S. Environmental Protection Agency
Ind	Industrial
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J-	Qualified as estimated, biased low
ND	Not detected
NE	Not established
Res	Residential
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
DU	Decision Unit
SWS	Statewide Standard (IDNR 2023b)
THQ	Total hazard quotient
TR	Total cancer risk
U	Qualified as non-detect at the reporting limit
UJ	The analyte was analyzed for but was not detected and the reported quantitation limit (QL) is approximate and may be inaccurate
VOC	Volatile organic compound

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-17-2		DU-17-3		DU-18-1		DU-18-2		DU-18-3		DU-19-1		DU-19-2		DU-19-3		DU-20-1		DU-20-2		DU-20-3		DU-21-1		DU-21-2	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/9/2023		11/9/2023		11/9/2023		11/10/2023		11/10/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
SVOCs: PAHs – EPA Method 8270 (µg/kg)																													
Acenaphthene	360,000	4,500,000	3,400,000	ND	UJ	474	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acenaphthylene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acetophenone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Anthracene	1,800,000	23,000,000	17,000,000	25.5	J	ND	UJ	31.1	J	34.5	J	23.3	J	42.1	J	38.3	J	35.6	J	12.2	J	16.2	J	35.9	J	16.9	J	28.0	J-
Atrazine	2,400	10,000	2,100,000	ND	UJ	26.5	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzaldehyde	170,000	820,000	3,100	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzo[a]anthracene	1,100	21,000	3,100	169	J	169	J	208	J	216	J	163	J	255	J	276	J	248	J	86.7	J	94.9	J	203	J	108	J	188	J-
Benzo[a]pyrene	110	2,100	2,300	139	J	141	J	161	J	180	J	159	J	222	J	212	J	184	J	72.3	J	87.4	J	167	J	111	J	155	J-
Benzo[b]fluoranthene	1,100	21,000	3,100	135	J	143	J	163	J	199	J	132	J	249	J	225	J	188	J	67.0	J	72.7	J	163	J	117	J	143	J-
Benzo[g,h,i]perylene	NE	NE	170,000	161	J	160	J	194	J	221	J	167	J	256	J	299	J	244	J	81.2	J	95.0	J	200	J	121	J	181	J-
1,1'-Biphenyl	4,700	20,000	31,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethoxy)methane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethyl)ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
bis (2-chloroisopropyl) ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-ethylhexyl) phthalate	39,000	160,000	170,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	107	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Bromophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Butyl benzyl phthalate	290,000	1,200,000	1,300,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	81.1	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Caprolactam				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Carbazole	NE	NE	120,000	ND	UJ	ND	UJ	ND	UJ	30.4	J	ND	UJ	31.3	J	34.1	J	29.7	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloro-3-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chloronaphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chlorophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Chrysene	110,000	2,100,000	310,000	357	J	350	J	404	J	455	J	329	J	485	J	539	J	492	J	172	J	197	J	428	J	205	J	367	J-
Dibenz(a,h)anthracene	110	2,100	310	70.4	J	75.9	J	83.4	J	111	J	75.3	J	107	J	124	J	94.5	J	31.8	J	41.4	J	90.7	J	39.2	J	76.1	J-
Dibenzofuran	7,800	120,000	76,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3,3'-Dichlorobenzidine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Diethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dimethylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Dimethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	36.9	J	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4,6-Dinitro-2-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,6-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-octyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Fluoranthene	240,000	3,000,000	23,000,000	64.9	J	67.7	J	83.9	J	105	J	72.2	J	161	J	121	J	130	J	42.2	J	45.4	J	91.2	J	99.2	J	73.9	J-
Fluorene	240,000	3,000,000	230,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobutadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorocyclopentadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachloroethane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	70.4	J	70.7	J	79.6	J	89.6	J	68.3	J	113	J	111	J	87.7	J	42.3	J	43.9	J	87.4	J	58.3	J	74.6	J-
Isophorone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Methylnaphthalene	24,000	300,000	230,000	80.5	J	70.5	J	84.8	J	94.8	J	68.3	J	96.6	J	108	J	112	J	39.5	J	40.4	J	88.1	J	40.8	J	85.8	J-
2-Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3 & 4 Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Naphthalene	2,000	8,600	1,100,000	42.2	J	40.3	J	42.7	J	53.7	J	38.6	J	54.4	J	59.8	J	58.2	J	22.7	J	21.3	J	49.3	J	20.4	J	45.0	J-
2-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Nitrobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodi-n-propylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodiphenylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Pentachlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Phenanthrene	NE	NE	1,700,000	372	J	374	J	425	J	490	J	342	J	484	J	537	J	511	J	184	J	204	J	464	J	201	J	415	J-
Phenol	1,900,000	25,000,000	18,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-17-2		DU-17-3		DU-18-1		DU-18-2		DU-18-3		DU-19-1		DU-19-2		DU-19-3		DU-20-1		DU-20-2		DU-20-3		DU-21-1		DU-21-2	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/9/2023		11/9/2023		11/9/2023		11/10/2023		11/10/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
Pyrene	180,000	2,300,000	1,700,000	241	J	242	J	289	J	321	J	237	J	365	J	391	J	366	J	127	J	140	J	302	J	167	J	269	J-
2,4,5-Trichlorophenol	630,000	8,200,000	6,100,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4,6-Trichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Metals – EPA Method 6010D (mg/kg)																													
Aluminum (Lee County Average 4.649 ± 0.826)	7,700	110,000	NE	6780		7050		8380		9230		10600		9810		9580		8770	B	10500	B	10400	B	9840	B	11100	B	9650	B
Antimony	3.1	47	NE	0.300	J	0.402	J	ND		ND		0.353	J	ND		0.469	J	0.696	J-	0.323	J	0.417	J	ND		ND		0.313	J
Arsenic (Lee County Average 8.277 ± 1.304)	0.68	3	1.90	5.85		7.29		5.80		6.17		7.23		6.20		5.85		6.36		7.40		7.14		6.80		6.14		6.97	
Barium	1,500	22,000	15,000	121		152		132		135		146		106		104		108		124		118		111		119		123	
Beryllium	16	230	110	0.466		0.513		0.530		0.570		0.605		0.533		0.575		0.563		0.608		0.651		0.627		0.736		0.619	
Cadmium	0.71	10	70	0.160	J	0.170	J	0.198	J	0.210	J	0.200	J	0.310	J	0.258	J	0.279	J	0.162	J	0.172	J	0.207	J	0.252	J	0.233	J
Chromium	8,500	36,000	190	11.2		12.0		13.4		15.0		16.6		17.4		16.3		16.2		17.7		18.4		17.7		20.5		16.5	
Cobalt	2	35	23	5.14		7.68		5.37		6.44		8.54		8.47		7.13		6.65		8.57		8.18		7.87		6.19		7.18	
Copper (Lee County Average 14.420 ± 3.396)	310	4,700	3,100	7.91		8.36		9.41		10.5		12.1		12.4		11.2		11.7		12.5		12.2		10.9		13.6		12.0	
Iron (Lee County Average 2.117 ± 0.338)	5,500	82,000	NE	10500		12100		11100		12000		14100		13200		11300		11900		15500		15600		14700		12500		13600	
Lead (Lee County Average 18.355 ± 2.624)	400	800	400	25.0		26.0		25.4		27.4		25.1		39.9		33.9		37.9		15.7		17.3		21.5		18.0		24.3	
Manganese (Lee County Average 682.588 ± 132.064)	180	2,600	10,000	564		968		627		621		715		432		346		394		330		317		336		242		437	
Nickel	NE	NE	1,500	9.08		10.4		11.4		13.1		15.6		15.4		14.1		13.5		17.5		17.7		17.0		15.1		14.6	
Selenium (Lee County Average 0.406 ± 0.073)	39	580	NE	0.525	J	0.687	J	0.756	J	0.857	J	0.671	J	ND		0.713	J	0.775	J	0.698	J	0.694	J	0.589	J	0.736	J	0.789	J
Silver	39	580	NE	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	39	580	350	24.3		27.7		23.4		25.5		28.4		24.7		23.8		23.7		27.4		27.3		26.6		26.1		26.3	
Zinc (Lee County Average 51.959 ± 10.003)	2,300	3,500	23,000	36.1		36.6		42.8		49.3		51.8		60.0		51.9		54.7		50.0		45.5		44.2		54.6		52.1	
Mercury	1.1	4.6	23	0.0190	J	0.0182	J	0.0491	J	0.0386	J	0.0370	J	0.0305	J	0.0328	J	0.0349	J	0.0325	J	0.0364	J	0.0320	J	0.0366	J	0.0380	J

Notes:

	Detected analyte
	Exceedance of an RSL or SWS and, for metals, of the county average background + one standard deviation (U.S. Geological Survey 2004)
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
B	Compound was found in the blank and sample.
EPA	U.S. Environmental Protection Agency
Ind	Industrial
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J-	Qualified as estimated, biased low
ND	Not detected
NE	Not established
Res	Residential
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
DU	Decision Unit
SWS	Statewide Standard (IDNR 2023b)
THQ	Total hazard quotient
TR	Total cancer risk
U	Qualified as non-detect at the reporting limit
UJ	The analyte was analyzed for but was not detected and the reported quantitation limit (QL) is approximate and may be inaccurate
VOC	Volatile organic compound

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-21-3		DU-22-1		DU-22-2		DU-22-3		DU-23-1		DU-23-2		DU-23-3		DU-24-1		DU-24-2		DU-24-3	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/9/2023		11/9/2023		11/9/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
SVOCs: PAHs – EPA Method 8270 (µg/kg)																							
Acenaphthene	360,000	4,500,000	3,400,000	ND	UJ	89.8	J-	64.1	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ	1090	J	1230	J	488	J
Acenaphthylene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acetophenone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Anthracene	1,800,000	23,000,000	17,000,000	25.7	J	443	J-	393	J-	404	J-	29.7	J-	54.0	J-	55.4	J-	2190	J	2860	J	1170	J
Atrazine	2,400	10,000	2,100,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzaldehyde	170,000	820,000	3,100	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzo[a]anthracene	1,100	21,000	3,100	183	J	1960	J-	2080	J-	2520	J-	190	J-	325	J-	321	J-	7700	J	13000	J	4160	J
Benzo[a]pyrene	110	2,100	2,300	141	J	1450	J-	1480	J-	1720	J-	152	J-	254	J-	249	J-	5890	J	9320	J	3300	J
Benzo[b]fluoranthene	1,100	21,000	3,100	143	J	1620	J-	1580	J-	1820	J-	136	J-	258	J-	260	J-	12800	J	20000	J	4860	J
Benzo[g,h,i]perylene	NE	NE	170,000	192	J	1590	J-	1660	J-	2050	J-	181	J-	302	J-	295	J-	4550	J	7170	J	2980	J
1,1'-Biphenyl	4,700	20,000	31,000,000	ND	UJ	ND	UJ	121	J-	168	J-	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethoxy)methane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethyl)ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
bis (2-chloroisopropyl) ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-ethylhexyl) phthalate	39,000	160,000	170,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Bromophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Butyl benzyl phthalate	290,000	1,200,000	1,300,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Caprolactam				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Carbazole	NE	NE	120,000	ND	UJ	306	J-	353	J-	423	J-	ND	UJ	42.3	J-	45.8	J-	1350	J	1950	J	814	J
4-Chloroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloro-3-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chloronaphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chlorophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Chrysene	110,000	2,100,000	310,000	363	J	3490	J-	3910	J-	5020	J-	367	J-	597	J-	584	J-	10000	J	18400	J	5530	J
Dibenz(a,h)anthracene	110	2,100	310	79.3	J	654	J-	805	J-	1060	J-	92.8	J-	138	J-	138	J-	1120	J	2350	J	1020	J
Dibenzofuran	7,800	120,000	76,000	ND	UJ	147	J-	ND	UJ	140	J-	ND	UJ	ND	UJ	ND	UJ	572	J	682	J	300	J
3,3'-Dichlorobenzidine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Diethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dimethylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Dimethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	52.3	J-	ND	UJ	ND	UJ	ND	UJ
4,6-Dinitro-2-methylphenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,6-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-octyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Fluoranthene	240,000	3,000,000	23,000,000	92.9	J	1800	J-	1200	J-	1090	J-	76.8	J-	188	J-	196	J-	14900	J	21700	J	7550	J
Fluorene	240,000	3,000,000	230,000	ND	UJ	153	J-	94.1	J-	109	J-	ND	UJ	16.7	J-	16.6	J-	909	J	1040	J	462	J
Hexachlorobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobutadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorocyclopentadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachloroethane				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	75.1	J	715	J-	737	J-	901	J-	73.4	J-	129	J-	132	J-	3170	J	4690	J	1830	J
Isophorone				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Methylnaphthalene	24,000	300,000	230,000	80.0	J	1100	J-	1360	J-	2010	J-	76.9	J-	128	J-	126	J-	346	J	1010	J	798	J
2-Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3 & 4 Methylphenol	NE	NE	NE	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Naphthalene	2,000	8,600	1,100,000	43.0	J	607	J-	809	J-	1180	J-	41.9	J-	69.4	J-	69.6	J-	463	J	750	J	577	J
2-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
3-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Nitrobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitrophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodi-n-propylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodiphenylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Pentachlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Phenanthrene	NE	NE	1,700,000	393	J	4730	J-	5580	J-	7250	J-	392	J-	660	J-	684	J-	10500	J	15300	J	7470	J
Phenol	1,900,000	25,000,000	18,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ

TABLE D-2: ISM COMPOSITE SURFACE SOIL RESULTS

			Sample Number:	DU-21-3		DU-22-1		DU-22-2		DU-22-3		DU-23-1		DU-23-2		DU-23-3		DU-24-1		DU-24-2		DU-24-3	
			Matrix:	ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil		ISM-Soil	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/9/2023		11/9/2023		11/9/2023	
Analyte	RSL Res	RSL Ind	IDNR SWS	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Pyrene	180,000	2,300,000	1,700,000	276	J	3010	J-	3010	J-	3580	J-	257	J-	445	J-	454	J-	12500	J	19700	J	7440	J
2,4,5-Trichlorophenol	630,000	8,200,000	6,100,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4,6-Trichlorophenol				ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ	ND	UJ
Metals – EPA Method 6010D (mg/kg)																							
Aluminum (Lee County Average 4.649 ± 0.826)	7,700	110,000	NE	10600	B	8530		8150		7080		9230		8310		7140		4950		5160		5380	
Antimony	3.1	47	NE	ND		ND		ND	UJ	ND		0.867	J	0.667	J	0.849	J	0.782	J	3.19		10.5	
Arsenic (Lee County Average 8.277 ± 1.304)	0.68	3	1.90	6.68		22.7		27.5		30.7		7.09		7.72		6.10		9.81		12.8		12.1	
Barium	1,500	22,000	15,000	116		166		389	J	117		156		146		127		111		131		181	
Beryllium	16	230	110	0.609		0.578		0.547		0.476		0.517		0.515		0.438		0.242	J	0.290	J	0.337	J
Cadmium	0.71	10	70	0.241	J	37.7		49.9		45.0		0.350	J	0.255	J	0.256	J	33.2		53.6		35.6	
Chromium	8,500	36,000	190	16.7		20.3		22.8		25.8		14.4		13.3		12.0		43.6		55.1		39.0	
Cobalt	2	35	23	7.15		8.77		6.54		5.25		7.37		8.26		8.00		5.97		6.34		6.44	
Copper (Lee County Average 14.420 ± 3.396)	310	4,700	3,100	12.1		23.3		26.9		31.4		11.5		9.69		8.50		48.7		44.4		38.1	
Iron (Lee County Average 2.117 ± 0.338)	5,500	82,000	NE	13100		14600		13900		12700		13600		13500		11400		16600		17000		12000	
Lead (Lee County Average 18.355 ± 2.624)	400	800	400	21.8		1770		2530		2940		44.6		41.2		37.3		1090		965		1060	
Manganese (Lee County Average 682.588 ± 132.064)	180	2,600	10,000	380		739		463		382		550		803		614		563		524		529	
Nickel	NE	NE	1,500	12.9		22.6		20.6		17.9		13.8		12.5		11.2		35.3		47.4		30.2	
Selenium (Lee County Average 0.406 ± 0.073)	39	580	NE	0.744	J	0.831	J	0.687	J	1.01	J	0.732	J	0.845	J	0.444	J	0.534	J	ND		ND	
Silver	39	580	NE	ND		3.93		5.66		6.73		ND		ND		ND		1.22		1.61		1.39	
Vanadium	39	580	350	26.3		31.4		28.8		27.2		27.4		28.1		23.6		30.3		30.2		24.5	
Zinc (Lee County Average 51.959 ± 10.003)	2,300	3,500	23,000	50.3		1090		1420		1630		57.1		47.3		44.2		943		1370		1330	
Mercury	1.1	4.6	23	0.0369	J	0.109	J	0.122	J+	0.143	J	0.0314	J	0.0311	J	0.0303	J	0.133	J	0.162	J	0.236	J

Notes:

	Detected analyte
	Exceedance of an RSL or SWS and, for metals, of the county average background + one standard deviation (U.S. Geological Survey 2004)
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
B	Compound was found in the blank and sample.
EPA	U.S. Environmental Protection Agency
Ind	Industrial
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J-	Qualified as estimated, biased low
ND	Not detected
NE	Not established
Res	Residential
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
DU	Decision Unit
SWS	Statewide Standard (IDNR 2023b)
THQ	Total hazard quotient
TR	Total cancer risk
U	Qualified as non-detect at the reporting limit
UJ	The analyte was analyzed for but was not detected and the reported quantitation limit (QL) is approximate and may be inaccurate
VOC	Volatile organic compound

TABLE D-3: SEDIMENT SAMPLE RESULTS

			Sample Number:	SD-1		SD-2		SD-3		SD-4	
			Matrix:	Sediment		Sediment		Sediment		Sediment	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
VOCs – EPA Method 8260 (µg/kg)											
Acetone				ND		ND		ND		ND	
Benzene				ND		ND		ND		ND	
Bromoform				ND		ND		ND		ND	
Bromomethane				ND		ND		ND		ND	
2-Butanone (methyl ethyl ketone)	2,700,000	19,000,000	46,000,000	ND		ND		**5.07**	**J**	ND	
Carbon disulfide				ND		ND		ND		ND	
Carbon tetrachloride				ND		ND		ND		ND	
Chlorobenzene				ND		ND		ND		ND	
Chlorodibromomethane				ND		ND		ND		ND	
Chloroethane				ND		ND		ND		ND	
Chloroform				ND		ND		ND		ND	
Chloromethane				ND		ND		ND		ND	
cis-1,2-Dichloroethene				ND		ND		ND		ND	
cis-1,3-Dichloropropene				ND		ND		ND		ND	
Cyclohexane				ND		ND		ND		ND	
1,2-Dibromo-3-Chloropropane				ND		ND		ND		ND	
1,2-Dichlorobenzene				ND		ND		ND		ND	
1,3-Dichlorobenzene				ND		ND		ND		ND	
1,4-Dichlorobenzene				ND		ND		ND		ND	
Dichlorobromomethane				ND		ND		ND		ND	
Dichlorodifluoromethane				ND		ND		ND		ND	
1,1-Dichloroethane				ND		ND		ND		ND	
1,2-Dichloroethane				ND		ND		ND		ND	
1,1-Dichloroethene				ND		ND		ND		ND	
1,2-Dichloropropane				ND		ND		ND		ND	
Ethylbenzene				ND		ND		ND		ND	
Ethylene Dibromide				ND		ND		ND		ND	
2-Hexanone				ND		ND		ND		ND	
Isopropylbenzene				ND		ND		ND		ND	
Methyl acetate				ND		ND		ND		ND	
Methylcyclohexane				ND		ND		ND		ND	
Methylene Chloride				ND		ND		ND		ND	
4-Methyl-2-pentanone				ND		ND		ND		ND	
Methyl tert-butyl ether				ND		ND		ND		ND	
Styrene				ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane				ND		ND		ND		ND	
Tetrachloroethene				ND		ND		ND		ND	
Toluene				ND		ND		ND		ND	
trans-1,2-Dichloroethene				ND		ND		ND		ND	
trans-1,3-Dichloropropene				ND		ND		ND		ND	
1,2,4-Trichlorobenzene				ND		ND		ND		ND	
1,1,1-Trichloroethane				ND		ND		ND		ND	
1,1,2-Trichloroethane				ND		ND		ND		ND	
Trichloroethene				ND		ND		ND		ND	
Trichlorofluoromethane				ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane				ND		ND		ND		ND	
Vinyl chloride				ND		ND		ND		ND	
Xylenes, Total				ND		ND		ND		ND	
SVOCs: PAHs – EPA Method 8270 (µg/kg)											
Acenaphthene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acenaphthylene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Acetophenone				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Anthracene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Atrazine				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzaldehyde				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Benzo[a]anthracene	1,100	21,000	3,100	ND	UJ	ND	UJ	**47.5**	**J-**	**53.9**	**J-**
Benzo[a]pyrene	110	2,100	2,300	**34.8**	**J-**	ND	UJ	**64.8**	**J-**	**67.3**	**J-**
Benzo[b]fluoranthene	1,100	21,000	3,100	ND	UJ	ND	UJ	**87.2**	**J-**	**97.7**	**J-**
Benzo[g,h,i]perylene	NE	NE	170,000	ND	UJ	ND	UJ	**51.6**	**J-**	**61.4**	**J-**
Benzo[k]fluoranthene	11,000	210,000	31,000	ND	UJ	ND	UJ	**29.7**	**J-**	**22.6**	**J-**
1,1'-Biphenyl				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethoxy)methane				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-chloroethyl)ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ
bis (2-chloroisopropyl) ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Bis(2-ethylhexyl) phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Bromophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Butyl benzyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Caprolactam				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Carbazole				ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Chloro-3-methylphenol				ND		ND		ND		ND	

TABLE D-3: SEDIMENT SAMPLE RESULTS

			Sample Number:	SD-1		SD-2		SD-3		SD-4	
			Matrix:	Sediment		Sediment		Sediment		Sediment	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
2-Chloronaphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Chlorophenol				ND		ND		ND		ND	
4-Chlorophenyl phenyl ether				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Chrysene	110,000	2,100,000	310,000	ND	UJ	ND	UJ	**79.8**	**J-**	**84.1**	**J-**
Dibenz(a,h)anthracene	110	2,100	310	ND	UJ	ND	UJ	**31.2**	**J-**	**30.2**	**J-**
Dibenzofuran				ND	UJ	ND	UJ	ND	UJ	ND	UJ
3,3'-Dichlorobenzidine				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dichlorophenol				ND		ND		ND		ND	
Diethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,4-Dimethylphenol				ND		ND		ND		ND	
Dimethyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-butyl phthalate	630,000	8,200,000	61,000,000	ND	UJ	ND	UJ	ND	UJ	ND	UJ
4,6-Dinitro-2-methylphenol				ND		ND		ND		ND	
2,4-Dinitrophenol				ND		ND		ND		ND	
2,4-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2,6-Dinitrotoluene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Di-n-octyl phthalate				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Fluoranthene	240,000	3,000,000	23,000,000	ND	UJ	ND	UJ	**73.4**	**J-**	**89.5**	**J-**
Fluorene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorobutadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachlorocyclopentadiene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Hexachloroethane				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Indeno[1,2,3-cd]pyrene	1,100	21,000	310	ND	UJ	ND	UJ	**56.7**	**J-**	**56.9**	**J-**
Isophorone				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Methylnaphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Methylphenol				ND		ND		ND		ND	
3 & 4 Methylphenol				ND		ND		ND		ND	
Naphthalene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ
3-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ
4-Nitroaniline				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Nitrobenzene				ND	UJ	ND	UJ	ND	UJ	ND	UJ
2-Nitrophenol				ND		ND		ND		ND	
4-Nitrophenol				ND		ND		ND		ND	
N-Nitrosodi-n-propylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ
N-Nitrosodiphenylamine				ND	UJ	ND	UJ	ND	UJ	ND	UJ
Pentachlorophenol				ND		ND		ND		ND	
Phenanthrene	NE	NE	1,700,000	**30.2**	**J-**	ND	UJ	**67.8**	**J-**	**62.4**	**J-**
Phenol				ND		ND		ND		ND	
Pyrene	180,000	2,300,000	1,700,000	ND	UJ	ND	UJ	**77.4**	**J-**	**92.3**	**J-**
2,4,5-Trichlorophenol				ND		ND		ND		ND	
2,4,6-Trichlorophenol				ND		ND		ND		ND	
Metals – EPA Method 6010D (mg/kg)											
Aluminum	7,700	110,000	NE	**17100**		**16000**		**3010**		**8780**	
Antimony	3.1	47	NE	ND		**0.585**	**J**	**0.761**	**J**	**1.27**	**J**
Arsenic	0.68	3	2	**11.1**		**10.3**		**1.67**	**J**	**5.91**	
Barium	1,500	22,000	15,000	**181**		**188**		**25.9**	**J**	**90.1**	
Beryllium	16	230	110	**0.832**	**J**	**0.870**		**0.181**	**J**	**0.617**	**J**
Cadmium	0.71	10	70	ND		ND		**0.0711**	**J**	**0.245**	**J**
Calcium	NE	NE	NE	**3960**		**3560**		**1180**		**4240**	
Chromium	8,500	36,000	190	**21.2**		**19.8**		**5.38**		**15.7**	
Cobalt	2	35	23	**12.0**		**12.9**		**1.88**		**6.79**	
Copper	310	4,700	3,100	**17.5**		**16.6**		**5.02**		**14.0**	
Iron	5,500	82,000	NE	**23600**		**21500**		**3240**		**13100**	
Lead	400	800	400	**19.3**		**23.0**		**9.70**		**20.8**	
Magnesium	NE	NE	NE	**2870**		**2670**		**482**	**J**	**1500**	
Manganese	180	2,600	10,000	**614**		**454**		**23.4**		**125**	
Nickel	NE	NE	1,500	**18.3**		**19.4**		**3.97**	**J**	**14.0**	
Potassium	NE	NE	NE	**1290**		**1270**		**244**	**J**	**624**	**J**
Selenium	39	580	NE	**0.926**	**J**	ND		ND		ND	
Silver				ND		ND		ND		ND	
Sodium				ND		ND		ND		ND	
Thallium				ND		ND		ND		ND	
Vanadium	39	580	350	**43.1**		**42.7**		**10.9**		**31.8**	
Zinc	2,300	3,500	23,000	**65.2**		**58.5**		**15.0**		**56.5**	
Mercury	1.1	4.6	23	**0.0510**	**J**	**0.0399**	**J**	ND		**0.0386**	**J**
TEH – Iowa DNR OA-2 (mg/kg)											
Gasoline				ND		ND		ND		ND	
Diesel				ND		ND		ND		ND	
Waste Oil				ND		ND		ND		ND	
Total Extractable Hydrocarbons	NE	NE	NE	**62.5**	**Z**	**123**	**Z**	**17.6**	**J Z**	**127**	**Z**

TABLE D-3: SEDIMENT SAMPLE RESULTS

			Sample Number:	SD-1		SD-2		SD-3		SD-4	
			Matrix:	Sediment		Sediment		Sediment		Sediment	
			Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample	
			Date Sampled:	11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	**RSL Res**	**RSL Ind**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**

Notes:

Bold	Detected analyte
	Exceedance
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
B	Compound was found in the blank and sample.
EPA	U.S. Environmental Protection Agency
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
J-	Qualified as estimated, biased low
ND	Not detected
NE	Not established
Res	Residential
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
SD	Sediment Sample
SWS	Statewide Standard (IDNR 2023b)
TEH	Total extractable hydrocarbons
THQ	Total hazard quotient
TR	Total cancer risk
U	Qualified as non-detect at the reporting limit
UJ	The analyte was analyzed for but was not detected and the reported quantitation limit (QL) is approximate and may be inaccurate
VOC	Volatile organic compound
Z	Chromatographic response does not resemble a typical fuel pattern

TABLE D-4: SURFACE WATER AND FIELD BLANK RESULTS

		Sample Number:	SW-1		SW-2		SW-3		SW-4		FB-1		FB-2	
		Matrix:	Surface Water		Surface Water		Surface Water		Surface Water		Water		Water	
		Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Blank		Field Blank	
		Date Sampled:	11/9/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	**MCL**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
VOCs – EPA Method 8260 (µg/L)														
Acetone			NA		NA		NA		NA		ND		ND	
Benzene			NA		NA		NA		NA		ND		ND	
Bromoform			NA		NA		NA		NA		ND		ND	
Bromomethane			NA		NA		NA		NA		ND		ND	
2-Butanone (MEK)			NA		NA		NA		NA		ND		ND	
Carbon disulfide			NA		NA		NA		NA		ND		ND	
Carbon tetrachloride			NA		NA		NA		NA		ND		ND	
Chlorobenzene			NA		NA		NA		NA		ND		ND	
Chlorodibromomethane			NA		NA		NA		NA		ND		ND	
Chloroethane			NA		NA		NA		NA		ND		ND	
Chloroform			NA		NA		NA		NA		ND		ND	
Chloromethane			NA		NA		NA		NA		ND		ND	
cis-1,2-Dichloroethene			NA		NA		NA		NA		ND		ND	
cis-1,3-Dichloropropene			NA		NA		NA		NA		ND		ND	
Cyclohexane			NA		NA		NA		NA		ND		ND	
1,2-Dibromo-3-Chloropropane			NA		NA		NA		NA		ND		ND	
1,2-Dichlorobenzene			NA		NA		NA		NA		ND		ND	
1,3-Dichlorobenzene			NA		NA		NA		NA		ND		ND	
1,4-Dichlorobenzene			NA		NA		NA		NA		ND		ND	
Dichlorobromomethane			NA		NA		NA		NA		ND		ND	
Dichlorodifluoromethane			NA		NA		NA		NA		ND		ND	
1,1-Dichloroethane			NA		NA		NA		NA		ND		ND	
1,2-Dichloroethane			NA		NA		NA		NA		ND		ND	
1,1-Dichloroethene			NA		NA		NA		NA		ND		ND	
1,2-Dichloropropane			NA		NA		NA		NA		ND		ND	
Ethylbenzene			NA		NA		NA		NA		ND		ND	
Ethylene Dibromide			NA		NA		NA		NA		ND		ND	
2-Hexanone			NA		NA		NA		NA		ND		ND	
Isopropylbenzene			NA		NA		NA		NA		ND		ND	
Methyl acetate			NA		NA		NA		NA		ND		ND	
Methylcyclohexane			NA		NA		NA		NA		ND		ND	
Methylene Chloride			NA		NA		NA		NA		ND		ND	
4-Methyl-2-pentanone			NA		NA		NA		NA		ND		ND	
Methyl tert-butyl ether			NA		NA		NA		NA		ND		ND	
Styrene			NA		NA		NA		NA		ND		ND	
1,1,2,2-Tetrachloroethane			NA		NA		NA		NA		ND		ND	
Tetrachloroethene			NA		NA		NA		NA		ND		ND	
Toluene	1,000	1,000	NA		NA		NA		NA		**0.520**	**J**	**0.485**	**J**
trans-1,2-Dichloroethene			NA		NA		NA		NA		ND		ND	
trans-1,3-Dichloropropene			NA		NA		NA		NA		ND		ND	
1,2,4-Trichlorobenzene			NA		NA		NA		NA		ND		ND	
1,1,1-Trichloroethane			NA		NA		NA		NA		ND		ND	
1,1,2-Trichloroethane			NA		NA		NA		NA		ND		ND	
Trichloroethene			NA		NA		NA		NA		ND		ND	
Trichlorofluoromethane			NA		NA		NA		NA		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane			NA		NA		NA		NA		ND		ND	
Vinyl chloride			NA		NA		NA		NA		ND		ND	
Xylenes, Total			NA		NA		NA		NA		ND		ND	
Metals – EPA Method 6010D (µg/L)														
Aluminum	NE	NE	**728**		**577**		**1150**		**1190**		NA		NA	
Antimony			ND		ND		ND		ND		NA		NA	
Arsenic	10	10	ND		**5.07**	**J**	**5.50**	**J**	ND		NA		NA	
Barium	2000	2000	**130**	**J**	**139**	**J**	**90.6**	**J**	**89.4**	**J**	NA		NA	
Beryllium			ND		ND		ND		ND		NA		NA	
Cadmium			ND		ND		ND		ND		NA		NA	
Calcium	NE	NE	**44200**		**44500**		**43800**		**43000**		NA		NA	
Chromium	100	100	**1.13**	**J**	**1.35**	**J**	**1.93**	**J**	**1.79**	J	NA		NA	
Cobalt			ND		ND		ND		ND		NA		NA	
Copper			ND		ND		ND		ND		NA		NA	
Iron	NE	NE	**945**		**799**		**1760**		**1770**		NA		NA	
Lead	15	15	ND		ND		**4.89**	**J**	**6.01**	**J**	NA		NA	
Magnesium	NE	NE	**7660**		**7590**		**7090**		**6990**		NA		NA	
Manganese	NE	300	**264**		**327**		**130**		**126**		NA		NA	
Nickel	NE	100	ND		2.39	J	2.35	J	ND		NA		NA	
Potassium	NE	NE	**4990**	**J**	**4990**	**J**	**4260**	**J**	**4150**	**J**	NA		NA	
Selenium			ND		ND		ND		ND		NA		NA	
Silver			ND		ND		ND		ND		NA		NA	
Sodium	NE	NE	**4110**	**J**	**3990**	**J**	**2990**	**J**	**2830**	**J**	NA		NA	

TABLE D-4: SURFACE WATER AND FIELD BLANK RESULTS

		Sample Number:	SW-1		SW-2		SW-3		SW-4		FB-1		FB-2	
		Matrix:	Surface Water		Surface Water		Surface Water		Surface Water		Water		Water	
		Sample Type:	Field Sample		Field Sample		Field Sample		Field Sample		Field Blank		Field Blank	
		Date Sampled:	11/9/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023		11/10/2023	
Analyte	**MCL**	**IDNR SWS**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
Thallium			ND		ND		ND		ND		NA		NA	
Vanadium			ND		ND		ND		ND		NA		NA	
Zinc			ND		ND		ND		ND		NA		NA	
Mercury			ND		ND		ND		ND		NA		NA	

Notes:

Bold	Detected analyte
	Exceedance
µg/L	Micrograms per liter
EPA	U.S. Environmental Protection Agency
IDNR	Iowa Department of Natural Resources
J	Qualified as estimated
NA	Not an analyte
ND	Not detected
NE	Not established
RSL	Regional Screening Level – Target Risk = 1E-06; Hazard Quotient = 0.1 (EPA 2023)
SD	Sediment Sample
SWS	Statewide Standard – Protected Groundwater Source (IDNR 2023b)
VOC	Volatile organic compound

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/20/2023 10:10:29 AM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195063-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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11/20/2023 10:10:29 AM

Authorized for release by
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Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Z	The chromatographic response does not resemble a typical fuel pattern.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 240-195063-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195063-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/9/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 240-594617 recovered above the upper control limit for Bromomethane, Chloromethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following samples were received with insufficient time remaining to freeze within 48 hours, as required for samples collected in water preserved TerraCores: SB-1(0-3) (240-195063-1), SB-1(33-35) (240-195063-2) and SB-2(33-35) DUP (240-195063-5). The samples was collected on 11/7/2023 between 12:00am and 10:15am. The samples were received on 11/9/2023 at 9:50am and placed in the freezer on 11/9/2023 at 11:15am.

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-594763 recovered above the upper control limit for Bromomethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594465 recovered above the upper control limit for Atrazine, Hexachlorocyclopentadiene and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-1(0-3) (240-195063-1), SB-1(33-35) (240-195063-2), SB-2(0-3) (240-195063-3), SB-2(33-35) (240-195063-4), SB-2(33-35) DUP (240-195063-5) and SB-3(33-35) (240-195063-7).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594628 recovered above the upper control limit for Atrazine, Hexachlorocyclopentadiene, 2-Nitroaniline, 4-Nitroaniline, 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-3(0-3) (240-195063-6), SB-4(0-3) (240-195063-8), SB-4(33-35) (240-195063-9) and (240-195065-G-5-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method OA2: The method blank for preparation batch 310-405656 and analytical batch 310-406178 contained Total Extractable Hydrocarbons above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Job ID: 240-195063-1 (Continued)

Laboratory: Eurofins Cleveland (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 6010D: The continuing calibration verification (CCV) associated with batch 240-594427 recovered above the upper control limit for thallium. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-1(0-3) (240-195063-1), SB-1(33-35) (240-195063-2), SB-2(0-3) (240-195063-3), SB-2(33-35) (240-195063-4), SB-2(33-35) DUP (240-195063-5), SB-3(0-3) (240-195063-6), SB-3(33-35) (240-195063-7), SB-4(0-3) (240-195063-8) and SB-4(33-35) (240-195063-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	EET CF
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CF
3546	Microwave Extraction	SW846	EET CLE
5035	Closed System Purge and Trap	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency
Iowa DNR = Iowa Department of Natural Resources
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195063-1	SB-1(0-3)	Solid	11/07/23 10:00	11/09/23 09:50
240-195063-2	SB-1(33-35)	Solid	11/07/23 10:15	11/09/23 09:50
240-195063-3	SB-2(0-3)	Solid	11/07/23 11:45	11/09/23 09:50
240-195063-4	SB-2(33-35)	Solid	11/07/23 13:00	11/09/23 09:50
240-195063-5	SB-2(33-35) DUP	Solid	11/07/23 00:00	11/09/23 09:50
240-195063-6	SB-3(0-3)	Solid	11/07/23 14:00	11/09/23 09:50
240-195063-7	SB-3(33-35)	Solid	11/07/23 15:15	11/09/23 09:50
240-195063-8	SB-4(0-3)	Solid	11/08/23 10:50	11/09/23 09:50
240-195063-9	SB-4(33-35)	Solid	11/08/23 11:25	11/09/23 09:50

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3) — Lab Sample ID: 240-195063-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	68.7	J B	177	28.3	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	12.7	J B Z	17.4	4.62	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	15300		21.0	5.60	mg/Kg	1	☼	6010D	Total/NA
Arsenic	11.1		1.57	0.332	mg/Kg	1	☼	6010D	Total/NA
Barium	154		21.0	0.380	mg/Kg	1	☼	6010D	Total/NA
Beryllium	1.06		0.525	0.0567	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.288	J	0.525	0.0504	mg/Kg	1	☼	6010D	Total/NA
Calcium	2760		525	38.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	18.9		1.05	0.360	mg/Kg	1	☼	6010D	Total/NA
Cobalt	19.9		1.05	0.0777	mg/Kg	1	☼	6010D	Total/NA
Copper	20.5		2.62	0.248	mg/Kg	1	☼	6010D	Total/NA
Iron	22400		21.0	7.29	mg/Kg	1	☼	6010D	Total/NA
Lead	20.2		1.05	0.296	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3750		525	16.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	1230		3.15	0.544	mg/Kg	2	☼	6010D	Total/NA
Nickel	43.0		4.20	0.521	mg/Kg	1	☼	6010D	Total/NA
Potassium	885		525	37.5	mg/Kg	1	☼	6010D	Total/NA
Sodium	267	J	525	149	mg/Kg	1	☼	6010D	Total/NA
Vanadium	36.5		5.25	0.863	mg/Kg	1	☼	6010D	Total/NA
Zinc	66.2		5.25	1.44	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0625	J	0.124	0.0223	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-1(33-35) — Lab Sample ID: 240-195063-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	53.8	J B	171	27.4	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	7.63	J B Z	16.7	4.45	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	4900		21.5	5.74	mg/Kg	1	☼	6010D	Total/NA
Arsenic	22.7		1.61	0.340	mg/Kg	1	☼	6010D	Total/NA
Barium	55.9		21.5	0.389	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.499	J	0.538	0.0581	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.341	J	0.538	0.0516	mg/Kg	1	☼	6010D	Total/NA
Calcium	27800		538	39.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.2		1.08	0.369	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.94		1.08	0.0796	mg/Kg	1	☼	6010D	Total/NA
Copper	12.3		2.69	0.254	mg/Kg	1	☼	6010D	Total/NA
Iron	28900		21.5	7.47	mg/Kg	1	☼	6010D	Total/NA
Lead	6.02		1.08	0.303	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4010		538	16.4	mg/Kg	1	☼	6010D	Total/NA
Manganese	275		1.61	0.279	mg/Kg	1	☼	6010D	Total/NA
Nickel	27.3		4.30	0.534	mg/Kg	1	☼	6010D	Total/NA
Potassium	722		538	38.5	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.7		5.38	0.884	mg/Kg	1	☼	6010D	Total/NA
Zinc	42.0		5.38	1.47	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0223	J	0.121	0.0218	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-2(0-3) — Lab Sample ID: 240-195063-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.39	J	3.69	0.515	ug/Kg	1	☼	8260D	Total/NA
2-Butanone (MEK)	5.49	J	14.8	2.62	ug/Kg	1	☼	8260D	Total/NA
Ethylbenzene	2.10	J	3.69	0.773	ug/Kg	1	☼	8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-2(0-3) (Continued) — Lab Sample ID: 240-195063-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylcyclohexane	1.73	J	7.38	0.906	ug/Kg	1	☼	8260D	Total/NA
Toluene	3.79		3.69	0.570	ug/Kg	1	☼	8260D	Total/NA
Xylenes, Total	1.29	J	7.38	1.17	ug/Kg	1	☼	8260D	Total/NA
Benzo[a]pyrene	19.9	J	43.1	15.1	ug/Kg	1	☼	8270E	Total/NA
Bis(2-ethylhexyl) phthalate	115	J	162	60.4	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	53.3	J B	162	25.9	ug/Kg	1	☼	8270E	Total/NA
Phenol	42.8	J	108	41.0	ug/Kg	1	☼	8270E	Total/NA
Waste Oil	22.4		10.2	2.08	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	862		17.8	4.75	mg/Kg	1	☼	6010D	Total/NA
Arsenic	3.67		1.34	0.281	mg/Kg	1	☼	6010D	Total/NA
Barium	10.8	J	17.8	0.322	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.289	J	0.445	0.0428	mg/Kg	1	☼	6010D	Total/NA
Calcium	200000		2230	162	mg/Kg	5	☼	6010D	Total/NA
Chromium	50.5		0.891	0.306	mg/Kg	1	☼	6010D	Total/NA
Cobalt	4.68		0.891	0.0659	mg/Kg	1	☼	6010D	Total/NA
Copper	31.8		11.1	1.05	mg/Kg	5	☼	6010D	Total/NA
Iron	21500		17.8	6.18	mg/Kg	1	☼	6010D	Total/NA
Lead	5.07		0.891	0.251	mg/Kg	1	☼	6010D	Total/NA
Magnesium	24200		445	13.6	mg/Kg	1	☼	6010D	Total/NA
Manganese	502		1.34	0.231	mg/Kg	1	☼	6010D	Total/NA
Nickel	43.6		3.56	0.442	mg/Kg	1	☼	6010D	Total/NA
Potassium	375	J	445	31.9	mg/Kg	1	☼	6010D	Total/NA
Sodium	146	J	445	126	mg/Kg	1	☼	6010D	Total/NA
Vanadium	5.86		4.45	0.732	mg/Kg	1	☼	6010D	Total/NA
Zinc	124		4.45	1.22	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: SB-2(33-35) — Lab Sample ID: 240-195063-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	51.9	J B	165	26.5	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	6.70	J B Z	16.2	4.30	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	4730		18.6	4.95	mg/Kg	1	☼	6010D	Total/NA
Arsenic	4.02		1.39	0.293	mg/Kg	1	☼	6010D	Total/NA
Barium	46.6		18.6	0.336	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.351	J	0.464	0.0501	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.205	J	0.464	0.0445	mg/Kg	1	☼	6010D	Total/NA
Calcium	21600		464	33.8	mg/Kg	1	☼	6010D	Total/NA
Chromium	13.0		0.928	0.318	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.25		0.928	0.0687	mg/Kg	1	☼	6010D	Total/NA
Copper	10.3		2.32	0.219	mg/Kg	1	☼	6010D	Total/NA
Iron	11800		18.6	6.44	mg/Kg	1	☼	6010D	Total/NA
Lead	5.78		0.928	0.262	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4670		464	14.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	168		1.39	0.240	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.1		3.71	0.460	mg/Kg	1	☼	6010D	Total/NA
Potassium	774		464	33.2	mg/Kg	1	☼	6010D	Total/NA
Vanadium	17.6		4.64	0.763	mg/Kg	1	☼	6010D	Total/NA
Zinc	29.3		4.64	1.27	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35) DUP — Lab Sample ID: 240-195063-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	54.1	J B	172	27.4	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	6.16	J B Z	16.1	4.29	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	4690		19.8	5.28	mg/Kg	1	☼	6010D	Total/NA
Arsenic	3.41		1.49	0.313	mg/Kg	1	☼	6010D	Total/NA
Barium	43.3		19.8	0.359	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.354	J	0.495	0.0535	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.196	J	0.495	0.0475	mg/Kg	1	☼	6010D	Total/NA
Calcium	25300		495	36.1	mg/Kg	1	☼	6010D	Total/NA
Chromium	11.5		0.990	0.340	mg/Kg	1	☼	6010D	Total/NA
Cobalt	4.69		0.990	0.0733	mg/Kg	1	☼	6010D	Total/NA
Copper	10.6		2.48	0.234	mg/Kg	1	☼	6010D	Total/NA
Iron	11100		19.8	6.88	mg/Kg	1	☼	6010D	Total/NA
Lead	5.36		0.990	0.279	mg/Kg	1	☼	6010D	Total/NA
Magnesium	6180		495	15.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	139		1.49	0.257	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.1		3.96	0.491	mg/Kg	1	☼	6010D	Total/NA
Potassium	762		495	35.4	mg/Kg	1	☼	6010D	Total/NA
Vanadium	16.7		4.95	0.814	mg/Kg	1	☼	6010D	Total/NA
Zinc	29.4		4.95	1.35	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0212	J	0.0982	0.0177	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-3(0-3) — Lab Sample ID: 240-195063-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	72.4		48.7	14.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	361		48.7	18.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	382		48.7	17.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	416		48.7	14.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	436		48.7	32.9	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	86.5		48.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole	65.6	J	122	32.9	ug/Kg	1	☼	8270E	Total/NA
Chrysene	557		48.7	17.0	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	237		48.7	18.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	237		48.7	17.0	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	197		48.7	14.6	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	169		48.7	15.8	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	97.9		48.7	15.8	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	381		48.7	15.8	ug/Kg	1	☼	8270E	Total/NA
Pyrene	338		48.7	19.5	ug/Kg	1	☼	8270E	Total/NA
Waste Oil	33.1		11.8	2.41	mg/Kg	1	☼	OA-2	Total/NA
Total Extractable Hydrocarbons	34.5	B	17.7	4.72	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	11000		22.6	6.02	mg/Kg	1	☼	6010D	Total/NA
Antimony	1.02	J	2.26	0.405	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.81		1.69	0.357	mg/Kg	1	☼	6010D	Total/NA
Barium	121		22.6	0.409	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.565		0.565	0.0610	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.246	J	0.565	0.0542	mg/Kg	1	☼	6010D	Total/NA
Calcium	5880		565	41.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	19.2		1.13	0.387	mg/Kg	1	☼	6010D	Total/NA
Cobalt	9.60		1.13	0.0836	mg/Kg	1	☼	6010D	Total/NA
Copper	18.3		2.82	0.266	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(0-3) (Continued) — Lab Sample ID: 240-195063-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	16700		22.6	7.84	mg/Kg	1	☼	6010D	Total/NA
Lead	35.2		1.13	0.318	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2640		565	17.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	485		1.69	0.292	mg/Kg	1	☼	6010D	Total/NA
Nickel	24.3		4.52	0.560	mg/Kg	1	☼	6010D	Total/NA
Potassium	828		565	40.4	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.557	J	2.26	0.530	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.5		5.65	0.928	mg/Kg	1	☼	6010D	Total/NA
Zinc	59.2		5.65	1.54	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0442	J	0.111	0.0200	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-3(33-35) — Lab Sample ID: 240-195063-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Extractable Hydrocarbons	8.33	J B Z	16.5	4.39	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	5360		19.9	5.31	mg/Kg	1	☼	6010D	Total/NA
Arsenic	4.21		1.49	0.314	mg/Kg	1	☼	6010D	Total/NA
Barium	39.8		19.9	0.360	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.405	J	0.497	0.0537	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.153	J	0.497	0.0478	mg/Kg	1	☼	6010D	Total/NA
Calcium	22400		497	36.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.4		0.995	0.341	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.56		0.995	0.0736	mg/Kg	1	☼	6010D	Total/NA
Copper	9.27		2.49	0.235	mg/Kg	1	☼	6010D	Total/NA
Iron	12000		19.9	6.91	mg/Kg	1	☼	6010D	Total/NA
Lead	6.63		0.995	0.281	mg/Kg	1	☼	6010D	Total/NA
Magnesium	5030		497	15.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	203		1.49	0.258	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.2		3.98	0.494	mg/Kg	1	☼	6010D	Total/NA
Potassium	878		497	35.6	mg/Kg	1	☼	6010D	Total/NA
Vanadium	19.5		4.97	0.818	mg/Kg	1	☼	6010D	Total/NA
Zinc	29.5		4.97	1.36	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: SB-4(0-3) — Lab Sample ID: 240-195063-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	76.8		49.2	18.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	75.7		49.2	17.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	62.5		49.2	14.8	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	72.6		49.2	33.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	147		49.2	17.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	43.4	J	49.2	18.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	28.7	J	49.2	17.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	45.3	J	49.2	14.8	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	30.1	J	49.2	16.0	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	16.8	J	49.2	16.0	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	148		49.2	16.0	ug/Kg	1	☼	8270E	Total/NA
Pyrene	93.0		49.2	19.7	ug/Kg	1	☼	8270E	Total/NA
Waste Oil	37.1		11.8	2.40	mg/Kg	1	☼	OA-2	Total/NA
Total Extractable Hydrocarbons	39.6	B	17.7	4.70	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	11800		21.3	5.68	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.693	J	2.13	0.382	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(0-3) (Continued) — Lab Sample ID: 240-195063-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.2		1.60	0.336	mg/Kg	1	☼	6010D	Total/NA
Barium	132		21.3	0.385	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.678		0.532	0.0575	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.167	J	0.532	0.0511	mg/Kg	1	☼	6010D	Total/NA
Calcium	3080		532	38.8	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.1		1.06	0.365	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.36		1.06	0.0788	mg/Kg	1	☼	6010D	Total/NA
Copper	13.4		2.66	0.251	mg/Kg	1	☼	6010D	Total/NA
Iron	17600		21.3	7.39	mg/Kg	1	☼	6010D	Total/NA
Lead	29.1		1.06	0.300	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2220		532	16.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	598		1.60	0.276	mg/Kg	1	☼	6010D	Total/NA
Nickel	12.1		4.26	0.528	mg/Kg	1	☼	6010D	Total/NA
Potassium	717		532	38.1	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.883	J	2.13	0.499	mg/Kg	1	☼	6010D	Total/NA
Vanadium	33.3		5.32	0.875	mg/Kg	1	☼	6010D	Total/NA
Zinc	55.4		5.32	1.46	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0652	J	0.112	0.0202	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-4(33-35) — Lab Sample ID: 240-195063-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	59.8	J B	168	26.8	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	8.46	J B Z	16.5	4.40	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	5200		18.4	4.92	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.49		1.38	0.291	mg/Kg	1	☼	6010D	Total/NA
Barium	55.6		18.4	0.334	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.448	J	0.461	0.0498	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.208	J	0.461	0.0442	mg/Kg	1	☼	6010D	Total/NA
Calcium	20700		461	33.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.8		0.922	0.316	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.30		0.922	0.0682	mg/Kg	1	☼	6010D	Total/NA
Copper	11.2		2.30	0.217	mg/Kg	1	☼	6010D	Total/NA
Iron	16600		18.4	6.40	mg/Kg	1	☼	6010D	Total/NA
Lead	6.66		0.922	0.260	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4570		461	14.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	304		1.38	0.239	mg/Kg	1	☼	6010D	Total/NA
Nickel	20.5		3.69	0.457	mg/Kg	1	☼	6010D	Total/NA
Potassium	750		461	33.0	mg/Kg	1	☼	6010D	Total/NA
Vanadium	21.8		4.61	0.758	mg/Kg	1	☼	6010D	Total/NA
Zinc	34.2		4.61	1.26	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3)

Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1

Matrix: Solid
Percent Solids: 82.1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	H	21.3	17.9	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Benzene	ND	H	4.26	0.594	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Bromoform	ND	H	4.26	2.04	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Bromomethane	ND	H	4.26	3.53	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
2-Butanone (MEK)	ND	H	17.0	3.03	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Carbon disulfide	ND	H	4.26	0.990	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Carbon tetrachloride	ND	H	4.26	2.77	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Chlorobenzene	ND	H	4.26	0.780	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Chlorodibromomethane	ND	H	4.26	2.37	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Chloroethane	ND	H	4.26	2.33	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Chloroform	ND	H	4.26	0.671	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Chloromethane	ND	H	4.26	1.94	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
cis-1,2-Dichloroethene	ND	H	4.26	1.26	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
cis-1,3-Dichloropropene	ND	H	4.26	2.45	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Cyclohexane	ND	H	8.51	1.17	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,2-Dibromo-3-Chloropropane	ND	H	8.51	3.07	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,2-Dichlorobenzene	ND	H	4.26	0.947	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,3-Dichlorobenzene	ND	H	4.26	1.40	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,4-Dichlorobenzene	ND	H	4.26	0.751	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Dichlorobromomethane	ND	H	4.26	1.28	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Dichlorodifluoromethane	ND	H	4.26	1.93	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1-Dichloroethane	ND	H	4.26	1.21	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,2-Dichloroethane	ND	H	4.26	1.53	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1-Dichloroethene	ND	H	4.26	1.55	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,2-Dichloropropane	ND	H	4.26	0.724	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Ethylbenzene	ND	H	4.26	0.891	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Ethylene Dibromide	ND	H	4.26	0.655	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
2-Hexanone	ND	H	17.0	3.48	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Isopropylbenzene	ND	H	4.26	1.63	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Methyl acetate	ND	H	21.3	2.89	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Methylcyclohexane	ND	H	8.51	1.04	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Methylene Chloride	ND	H	21.3	10.2	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
4-Methyl-2-pentanone (MIBK)	ND	H	17.0	3.16	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Methyl tert-butyl ether	ND	H	4.26	1.69	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Styrene	ND	H	4.26	0.986	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1,2,2-Tetrachloroethane	ND	H	4.26	1.22	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Tetrachloroethene	ND	H	4.26	3.31	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Toluene	ND	H	4.26	0.658	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
trans-1,2-Dichloroethene	ND	H	4.26	1.21	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
trans-1,3-Dichloropropene	ND	H	4.26	3.16	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,2,4-Trichlorobenzene	ND	H	4.26	2.13	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1,1-Trichloroethane	ND	H	4.26	1.51	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1,2-Trichloroethane	ND	H	4.26	0.964	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Trichloroethene	ND	H	4.26	1.22	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Trichlorofluoromethane	ND	H	4.26	2.29	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	H	4.26	1.09	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Vinyl chloride	ND	H	4.26	1.51	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1
Xylenes, Total	ND	H	8.51	1.35	ug/Kg	☼	11/09/23 11:15	11/15/23 04:49	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3)

Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1

Matrix: Solid
Percent Solids: 82.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/09/23 11:15*	*11/15/23 04:49*	*1*
Dibromofluoromethane (Surr)	*88*		*41 - 138*	*11/09/23 11:15*	*11/15/23 04:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*58 - 125*	*11/09/23 11:15*	*11/15/23 04:49*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/09/23 11:15*	*11/15/23 04:49*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Acenaphthylene	ND		47.2	17.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Acetophenone	ND		118	29.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Anthracene	ND		47.2	14.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Atrazine	ND		390	81.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzaldehyde	ND		390	66.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzo[a]anthracene	ND		47.2	17.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzo[a]pyrene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzo[b]fluoranthene	ND		47.2	14.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzo[g,h,i]perylene	ND		47.2	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Benzo[k]fluoranthene	ND		47.2	11.8	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
1,1'-Biphenyl	ND		118	33.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Bis(2-chloroethoxy)methane	ND		118	23.6	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Bis(2-chloroethyl)ether	ND		118	26.0	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
bis (2-chloroisopropyl) ether	ND		118	30.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Bis(2-ethylhexyl) phthalate	ND		177	66.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Bromophenyl phenyl ether	ND		118	37.8	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Butyl benzyl phthalate	ND		177	60.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Caprolactam	ND		390	81.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Carbazole	ND		118	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Chloroaniline	ND		177	18.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Chloro-3-methylphenol	ND		177	44.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Chloronaphthalene	ND		118	33.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Chlorophenol	ND		118	30.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Chlorophenyl phenyl ether	ND		118	33.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Chrysene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Dibenz(a,h)anthracene	ND		47.2	17.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Dibenzofuran	ND		118	34.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
3,3'-Dichlorobenzidine	ND		177	112	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4-Dichlorophenol	ND		177	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Diethyl phthalate	ND		177	50.8	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4-Dimethylphenol	ND		177	42.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Dimethyl phthalate	ND		177	47.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Di-n-butyl phthalate	**68.7**	**J B**	177	28.3	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4,6-Dinitro-2-methylphenol	ND		390	123	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4-Dinitrophenol	ND		390	202	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4-Dinitrotoluene	ND		236	27.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,6-Dinitrotoluene	ND		236	42.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Di-n-octyl phthalate	ND		177	59.0	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Fluoranthene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Fluorene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Hexachlorobenzene	ND		47.2	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Hexachlorobutadiene	ND		118	24.8	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3)

Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1

Matrix: Solid
Percent Solids: 82.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		390	46.1	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Hexachloroethane	ND		118	37.8	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Indeno[1,2,3-cd]pyrene	ND		47.2	14.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Isophorone	ND		118	30.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Methylnaphthalene	ND		47.2	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Methylphenol	ND		236	48.4	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
3 & 4 Methylphenol	ND		472	48.4	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Naphthalene	ND		47.2	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Nitroaniline	ND		236	44.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
3-Nitroaniline	ND		236	41.3	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Nitroaniline	ND		236	30.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Nitrobenzene	ND		118	26.0	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2-Nitrophenol	ND		118	41.3	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
4-Nitrophenol	ND		390	106	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
N-Nitrosodi-n-propylamine	ND		118	43.7	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
N-Nitrosodiphenylamine	ND		118	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Pentachlorophenol	ND		319	124	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Phenanthrene	ND		47.2	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Phenol	ND		118	44.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
Pyrene	ND		47.2	18.9	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4,5-Trichlorophenol	ND		177	39.0	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1
2,4,6-Trichlorophenol	ND		177	34.2	ug/Kg	☼	11/13/23 08:41	11/14/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*57*		*34 - 120*	*11/13/23 08:41*	*11/14/23 17:58*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 120*	*11/13/23 08:41*	*11/14/23 17:58*	*1*
Nitrobenzene-d5 (Surr)	*58*		*25 - 120*	*11/13/23 08:41*	*11/14/23 17:58*	*1*
Phenol-d5 (Surr)	*63*		*26 - 120*	*11/13/23 08:41*	*11/14/23 17:58*	*1*
Terphenyl-d14 (Surr)	*63*		*46 - 137*	*11/13/23 08:41*	*11/14/23 17:58*	*1*
2,4,6-Tribromophenol (Surr)	*48*		*10 - 120*	*11/13/23 08:41*	*11/14/23 17:58*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.6	8.68	mg/Kg	☼	11/10/23 13:25	11/16/23 16:48	1
Diesel	ND		11.6	4.62	mg/Kg	☼	11/10/23 13:25	11/16/23 16:48	1
Waste Oil	ND		11.6	2.36	mg/Kg	☼	11/10/23 13:25	11/16/23 16:48	1
Total Extractable Hydrocarbons	**12.7**	**J B Z**	17.4	4.62	mg/Kg	☼	11/10/23 13:25	11/16/23 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*56*		*12 - 126*	*11/10/23 13:25*	*11/16/23 16:48*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15300**		21.0	5.60	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Antimony	ND		2.10	0.377	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Arsenic	**11.1**		1.57	0.332	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Barium	**154**		21.0	0.380	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Beryllium	**1.06**		0.525	0.0567	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Cadmium	**0.288**	**J**	0.525	0.0504	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Calcium	**2760**		525	38.3	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3)

Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1

Matrix: Solid
Percent Solids: 82.1

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	18.9		1.05	0.360	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Cobalt	19.9		1.05	0.0777	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Copper	20.5		2.62	0.248	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Iron	22400		21.0	7.29	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Lead	20.2		1.05	0.296	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Magnesium	3750		525	16.1	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Manganese	1230		3.15	0.544	mg/Kg	☼	11/10/23 15:00	11/14/23 16:50	2
Nickel	43.0		4.20	0.521	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Potassium	885		525	37.5	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Selenium	ND		2.10	0.492	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Silver	ND		1.05	0.0850	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Sodium	267	J	525	149	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Thallium	ND	^+	2.10	0.419	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Vanadium	36.5		5.25	0.863	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1
Zinc	66.2		5.25	1.44	mg/Kg	☼	11/10/23 15:00	11/13/23 15:41	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0625	J	0.124	0.0223	mg/Kg	☼	11/10/23 15:00	11/13/23 18:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	82.1		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	17.9		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(33-35)

Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2

Matrix: Solid
Percent Solids: 85.3

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	H	17.3	14.5	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Benzene	ND	H	3.46	0.484	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Bromoform	ND	H	3.46	1.66	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Bromomethane	ND	H	3.46	2.88	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
2-Butanone (MEK)	ND	H	13.9	2.46	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Carbon disulfide	ND	H	3.46	0.806	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Carbon tetrachloride	ND	H	3.46	2.25	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Chlorobenzene	ND	H	3.46	0.635	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Chlorodibromomethane	ND	H	3.46	1.93	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Chloroethane	ND	H	3.46	1.90	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Chloroform	ND	H	3.46	0.546	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Chloromethane	ND	H	3.46	1.58	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
cis-1,2-Dichloroethene	ND	H	3.46	1.03	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
cis-1,3-Dichloropropene	ND	H	3.46	2.00	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Cyclohexane	ND	H	6.93	0.953	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,2-Dibromo-3-Chloropropane	ND	H	6.93	2.50	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,2-Dichlorobenzene	ND	H	3.46	0.770	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,3-Dichlorobenzene	ND	H	3.46	1.14	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,4-Dichlorobenzene	ND	H	3.46	0.611	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Dichlorobromomethane	ND	H	3.46	1.04	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Dichlorodifluoromethane	ND	H	3.46	1.57	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1-Dichloroethane	ND	H	3.46	0.981	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,2-Dichloroethane	ND	H	3.46	1.25	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1-Dichloroethene	ND	H	3.46	1.26	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,2-Dichloropropane	ND	H	3.46	0.590	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Ethylbenzene	ND	H	3.46	0.725	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Ethylene Dibromide	ND	H	3.46	0.533	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
2-Hexanone	ND	H	13.9	2.83	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Isopropylbenzene	ND	H	3.46	1.33	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Methyl acetate	ND	H	17.3	2.36	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Methylcyclohexane	ND	H	6.93	0.850	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Methylene Chloride	ND	H	17.3	8.31	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
4-Methyl-2-pentanone (MIBK)	ND	H	13.9	2.57	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Methyl tert-butyl ether	ND	H	3.46	1.37	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Styrene	ND	H	3.46	0.802	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1,2,2-Tetrachloroethane	ND	H	3.46	0.991	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Tetrachloroethene	ND	H	3.46	2.69	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Toluene	ND	H	3.46	0.536	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
trans-1,2-Dichloroethene	ND	H	3.46	0.984	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
trans-1,3-Dichloropropene	ND	H	3.46	2.57	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,2,4-Trichlorobenzene	ND	H	3.46	1.73	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1,1-Trichloroethane	ND	H	3.46	1.23	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1,2-Trichloroethane	ND	H	3.46	0.784	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Trichloroethene	ND	H	3.46	0.993	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Trichlorofluoromethane	ND	H	3.46	1.86	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	H	3.46	0.888	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Vinyl chloride	ND	H	3.46	1.23	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1
Xylenes, Total	ND	H	6.93	1.10	ug/Kg	☼	11/09/23 11:15	11/15/23 05:13	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(33-35)

Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2

Matrix: Solid
Percent Solids: 85.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 143*	*11/09/23 11:15*	*11/15/23 05:13*	*1*
Dibromofluoromethane (Surr)	*87*		*41 - 138*	*11/09/23 11:15*	*11/15/23 05:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*58 - 125*	*11/09/23 11:15*	*11/15/23 05:13*	*1*
Toluene-d8 (Surr)	*109*		*56 - 125*	*11/09/23 11:15*	*11/15/23 05:13*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Acenaphthylene	ND		45.6	17.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Acetophenone	ND		114	28.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Anthracene	ND		45.6	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Atrazine	ND		376	78.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzaldehyde	ND		376	63.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzo[a]anthracene	ND		45.6	17.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzo[a]pyrene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzo[b]fluoranthene	ND		45.6	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzo[g,h,i]perylene	ND		45.6	30.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Benzo[k]fluoranthene	ND		45.6	11.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
1,1'-Biphenyl	ND		114	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Bis(2-chloroethoxy)methane	ND		114	22.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Bis(2-chloroethyl)ether	ND		114	25.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
bis (2-chloroisopropyl) ether	ND		114	29.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Bis(2-ethylhexyl) phthalate	ND		171	63.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Bromophenyl phenyl ether	ND		114	36.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Butyl benzyl phthalate	ND		171	58.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Caprolactam	ND		376	78.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Carbazole	ND		114	30.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Chloroaniline	ND		171	18.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Chloro-3-methylphenol	ND		171	43.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Chloronaphthalene	ND		114	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Chlorophenol	ND		114	29.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Chlorophenyl phenyl ether	ND		114	31.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Chrysene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Dibenz(a,h)anthracene	ND		45.6	17.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Dibenzofuran	ND		114	33.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
3,3'-Dichlorobenzidine	ND		171	108	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4-Dichlorophenol	ND		171	30.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Diethyl phthalate	ND		171	49.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4-Dimethylphenol	ND		171	41.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Dimethyl phthalate	ND		171	45.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Di-n-butyl phthalate	**53.8**	**J B**	171	27.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4,6-Dinitro-2-methylphenol	ND		376	119	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4-Dinitrophenol	ND		376	195	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4-Dinitrotoluene	ND		228	26.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,6-Dinitrotoluene	ND		228	41.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Di-n-octyl phthalate	ND		171	57.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Fluoranthene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Fluorene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Hexachlorobenzene	ND		45.6	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Hexachlorobutadiene	ND		114	23.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1

Client Sample ID: SB-1(33-35)
Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2
Matrix: Solid
Percent Solids: 85.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		376	44.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Hexachloroethane	ND		114	36.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Indeno[1,2,3-cd]pyrene	ND		45.6	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Isophorone	ND		114	29.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Methylnaphthalene	ND		45.6	14.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Methylphenol	ND		228	46.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
3 & 4 Methylphenol	ND		456	46.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Naphthalene	ND		45.6	14.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Nitroaniline	ND		228	43.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
3-Nitroaniline	ND		228	39.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Nitroaniline	ND		228	29.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Nitrobenzene	ND		114	25.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2-Nitrophenol	ND		114	39.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
4-Nitrophenol	ND		376	103	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
N-Nitrosodi-n-propylamine	ND		114	42.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
N-Nitrosodiphenylamine	ND		114	30.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Pentachlorophenol	ND		308	120	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Phenanthrene	ND		45.6	14.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Phenol	ND		114	43.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
Pyrene	ND		45.6	18.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4,5-Trichlorophenol	ND		171	37.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1
2,4,6-Trichlorophenol	ND		171	33.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*51*		*34 - 120*	*11/13/23 08:41*	*11/14/23 18:22*	*1*
2-Fluorophenol (Surr)	*54*		*20 - 120*	*11/13/23 08:41*	*11/14/23 18:22*	*1*
Nitrobenzene-d5 (Surr)	*51*		*25 - 120*	*11/13/23 08:41*	*11/14/23 18:22*	*1*
Phenol-d5 (Surr)	*57*		*26 - 120*	*11/13/23 08:41*	*11/14/23 18:22*	*1*
Terphenyl-d14 (Surr)	*55*		*46 - 137*	*11/13/23 08:41*	*11/14/23 18:22*	*1*
2,4,6-Tribromophenol (Surr)	*43*		*10 - 120*	*11/13/23 08:41*	*11/14/23 18:22*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.2	8.36	mg/Kg	☼	11/10/23 13:25	11/16/23 17:03	1
Diesel	ND		11.2	4.45	mg/Kg	☼	11/10/23 13:25	11/16/23 17:03	1
Waste Oil	ND		11.2	2.27	mg/Kg	☼	11/10/23 13:25	11/16/23 17:03	1
Total Extractable Hydrocarbons	**7.63**	**J B Z**	16.7	4.45	mg/Kg	☼	11/10/23 13:25	11/16/23 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*91*		*12 - 126*	*11/10/23 13:25*	*11/16/23 17:03*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4900**		21.5	5.74	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Antimony	ND		2.15	0.386	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Arsenic	**22.7**		1.61	0.340	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Barium	**55.9**		21.5	0.389	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Beryllium	**0.499**	**J**	0.538	0.0581	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Cadmium	**0.341**	**J**	0.538	0.0516	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Calcium	**27800**		538	39.2	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(33-35)

Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2

Matrix: Solid
Percent Solids: 85.3

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.2		1.08	0.369	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Cobalt	7.94		1.08	0.0796	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Copper	12.3		2.69	0.254	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Iron	28900		21.5	7.47	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Lead	6.02		1.08	0.303	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Magnesium	4010		538	16.4	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Manganese	275		1.61	0.279	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Nickel	27.3		4.30	0.534	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Potassium	722		538	38.5	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Selenium	ND		2.15	0.505	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Silver	ND		1.08	0.0871	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Sodium	ND		538	153	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Thallium	ND	^+	2.15	0.429	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Vanadium	23.7		5.38	0.884	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1
Zinc	42.0		5.38	1.47	mg/Kg	☼	11/10/23 15:00	11/13/23 15:46	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0223	J	0.121	0.0218	mg/Kg	☼	11/10/23 15:00	11/13/23 18:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	85.3		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	14.7		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(0-3)

Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3

Matrix: Solid
Percent Solids: 94.3

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		18.4	15.5	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Benzene	**1.39**	**J**	3.69	0.515	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Bromoform	ND		3.69	1.77	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Bromomethane	ND		3.69	3.06	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
2-Butanone (MEK)	**5.49**	**J**	14.8	2.62	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Carbon disulfide	ND		3.69	0.858	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Carbon tetrachloride	ND		3.69	2.40	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Chlorobenzene	ND		3.69	0.676	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Chlorodibromomethane	ND		3.69	2.05	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Chloroethane	ND		3.69	2.02	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Chloroform	ND		3.69	0.582	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Chloromethane	ND		3.69	1.68	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
cis-1,2-Dichloroethene	ND		3.69	1.09	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
cis-1,3-Dichloropropene	ND		3.69	2.13	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Cyclohexane	ND		7.38	1.01	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,2-Dibromo-3-Chloropropane	ND		7.38	2.66	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,2-Dichlorobenzene	ND		3.69	0.821	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,3-Dichlorobenzene	ND		3.69	1.22	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,4-Dichlorobenzene	ND		3.69	0.651	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Dichlorobromomethane	ND		3.69	1.11	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Dichlorodifluoromethane	ND		3.69	1.67	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1-Dichloroethane	ND		3.69	1.04	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,2-Dichloroethane	ND		3.69	1.33	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1-Dichloroethene	ND		3.69	1.34	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,2-Dichloropropane	ND		3.69	0.628	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Ethylbenzene	**2.10**	**J**	3.69	0.773	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Ethylene Dibromide	ND		3.69	0.568	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
2-Hexanone	ND		14.8	3.01	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Isopropylbenzene	ND		3.69	1.42	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Methyl acetate	ND		18.4	2.51	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Methylcyclohexane	**1.73**	**J**	7.38	0.906	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Methylene Chloride	ND		18.4	8.86	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
4-Methyl-2-pentanone (MIBK)	ND		14.8	2.74	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Methyl tert-butyl ether	ND		3.69	1.46	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Styrene	ND		3.69	0.855	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1,2,2-Tetrachloroethane	ND		3.69	1.06	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Tetrachloroethene	ND		3.69	2.87	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Toluene	**3.79**		3.69	0.570	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
trans-1,2-Dichloroethene	ND		3.69	1.05	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
trans-1,3-Dichloropropene	ND		3.69	2.74	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,2,4-Trichlorobenzene	ND		3.69	1.84	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1,1-Trichloroethane	ND		3.69	1.31	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1,2-Trichloroethane	ND		3.69	0.835	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Trichloroethene	ND		3.69	1.06	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Trichlorofluoromethane	ND		3.69	1.99	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.69	0.946	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Vinyl chloride	ND		3.69	1.31	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1
Xylenes, Total	**1.29**	**J**	7.38	1.17	ug/Kg	☼	11/09/23 11:15	11/15/23 05:37	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(0-3)

Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3

Matrix: Solid
Percent Solids: 94.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*41 - 143*	*11/09/23 11:15*	*11/15/23 05:37*	*1*
Dibromofluoromethane (Surr)	*83*		*41 - 138*	*11/09/23 11:15*	*11/15/23 05:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*58 - 125*	*11/09/23 11:15*	*11/15/23 05:37*	*1*
Toluene-d8 (Surr)	*110*		*56 - 125*	*11/09/23 11:15*	*11/15/23 05:37*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Acenaphthylene	ND		43.1	16.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Acetophenone	ND		108	27.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Anthracene	ND		43.1	12.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Atrazine	ND		356	74.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzaldehyde	ND		356	60.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzo[a]anthracene	ND		43.1	16.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzo[a]pyrene	**19.9**	**J**	43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzo[b]fluoranthene	ND		43.1	12.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzo[g,h,i]perylene	ND		43.1	29.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Benzo[k]fluoranthene	ND		43.1	10.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
1,1'-Biphenyl	ND		108	30.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Bis(2-chloroethoxy)methane	ND		108	21.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Bis(2-chloroethyl)ether	ND		108	23.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
bis (2-chloroisopropyl) ether	ND		108	28.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Bis(2-ethylhexyl) phthalate	**115**	**J**	162	60.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Bromophenyl phenyl ether	ND		108	34.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Butyl benzyl phthalate	ND		162	55.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Caprolactam	ND		356	74.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Carbazole	ND		108	29.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Chloroaniline	ND		162	17.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Chloro-3-methylphenol	ND		162	41.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Chloronaphthalene	ND		108	30.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Chlorophenol	ND		108	28.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Chlorophenyl phenyl ether	ND		108	30.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Chrysene	ND		43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Dibenz(a,h)anthracene	ND		43.1	16.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Dibenzofuran	ND		108	31.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
3,3'-Dichlorobenzidine	ND		162	102	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4-Dichlorophenol	ND		162	29.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Diethyl phthalate	ND		162	46.4	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4-Dimethylphenol	ND		162	38.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Dimethyl phthalate	ND		162	43.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Di-n-butyl phthalate	**53.3**	**J B**	162	25.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4,6-Dinitro-2-methylphenol	ND		356	112	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4-Dinitrophenol	ND		356	184	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4-Dinitrotoluene	ND		216	24.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,6-Dinitrotoluene	ND		216	38.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Di-n-octyl phthalate	ND		162	53.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Fluoranthene	ND		43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Fluorene	ND		43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Hexachlorobenzene	ND		43.1	15.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Hexachlorobutadiene	ND		108	22.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(0-3)

Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3

Matrix: Solid
Percent Solids: 94.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		356	42.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Hexachloroethane	ND		108	34.5	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Indeno[1,2,3-cd]pyrene	ND		43.1	12.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Isophorone	ND		108	28.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Methylnaphthalene	ND		43.1	14.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Methylphenol	ND		216	44.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
3 & 4 Methylphenol	ND		431	44.2	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Naphthalene	ND		43.1	14.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Nitroaniline	ND		216	41.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
3-Nitroaniline	ND		216	37.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Nitroaniline	ND		216	28.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Nitrobenzene	ND		108	23.7	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2-Nitrophenol	ND		108	37.8	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
4-Nitrophenol	ND		356	97.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
N-Nitrosodi-n-propylamine	ND		108	39.9	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
N-Nitrosodiphenylamine	ND		108	29.1	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Pentachlorophenol	ND		291	113	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Phenanthrene	ND		43.1	14.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Phenol	**42.8**	**J**	108	41.0	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
Pyrene	ND		43.1	17.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4,5-Trichlorophenol	ND		162	35.6	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1
2,4,6-Trichlorophenol	ND		162	31.3	ug/Kg	☼	11/13/23 08:41	11/14/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*34 - 120*	*11/13/23 08:41*	*11/14/23 18:45*	*1*
2-Fluorophenol (Surr)	*62*		*20 - 120*	*11/13/23 08:41*	*11/14/23 18:45*	*1*
Nitrobenzene-d5 (Surr)	*60*		*25 - 120*	*11/13/23 08:41*	*11/14/23 18:45*	*1*
Phenol-d5 (Surr)	*64*		*26 - 120*	*11/13/23 08:41*	*11/14/23 18:45*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 137*	*11/13/23 08:41*	*11/14/23 18:45*	*1*
2,4,6-Tribromophenol (Surr)	*23*		*10 - 120*	*11/13/23 08:41*	*11/14/23 18:45*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		10.2	7.66	mg/Kg	☼	11/10/23 13:25	11/16/23 17:18	1
Diesel	ND		10.2	4.07	mg/Kg	☼	11/10/23 13:25	11/16/23 17:18	1
Waste Oil	**22.4**		10.2	2.08	mg/Kg	☼	11/10/23 13:25	11/16/23 17:18	1
Total Extractable Hydrocarbons	ND		15.3	4.07	mg/Kg	☼	11/10/23 13:25	11/16/23 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*99*		*12 - 126*	*11/10/23 13:25*	*11/16/23 17:18*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**862**		17.8	4.75	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Antimony	ND		1.78	0.320	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Arsenic	**3.67**		1.34	0.281	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Barium	**10.8**	**J**	17.8	0.322	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Beryllium	ND		0.445	0.0481	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Cadmium	**0.289**	**J**	0.445	0.0428	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Calcium	**200000**		2230	162	mg/Kg	☼	11/10/23 15:00	11/15/23 15:14	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(0-3)

Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3

Matrix: Solid
Percent Solids: 94.3

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	50.5		0.891	0.306	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Cobalt	4.68		0.891	0.0659	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Copper	31.8		11.1	1.05	mg/Kg	☼	11/10/23 15:00	11/15/23 15:14	5
Iron	21500		17.8	6.18	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Lead	5.07		0.891	0.251	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Magnesium	24200		445	13.6	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Manganese	502		1.34	0.231	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Nickel	43.6		3.56	0.442	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Potassium	375	J	445	31.9	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Selenium	ND		1.78	0.418	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Silver	ND		0.891	0.0721	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Sodium	146	J	445	126	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Thallium	ND	^+	1.78	0.355	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Vanadium	5.86		4.45	0.732	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1
Zinc	124		4.45	1.22	mg/Kg	☼	11/10/23 15:00	11/13/23 15:50	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0922	0.0166	mg/Kg	☼	11/10/23 15:00	11/13/23 18:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	94.3		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	5.7		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35)

Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4

Matrix: Solid
Percent Solids: 89.0

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.2	14.4	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Benzene	ND		3.44	0.480	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Bromoform	ND		3.44	1.65	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Bromomethane	ND		3.44	2.85	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
2-Butanone (MEK)	ND		13.7	2.44	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Carbon disulfide	ND		3.44	0.799	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Carbon tetrachloride	ND		3.44	2.24	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Chlorobenzene	ND		3.44	0.629	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Chlorodibromomethane	ND		3.44	1.91	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Chloroethane	ND		3.44	1.88	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Chloroform	ND		3.44	0.542	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Chloromethane	ND		3.44	1.57	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
cis-1,2-Dichloroethene	ND		3.44	1.02	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
cis-1,3-Dichloropropene	ND		3.44	1.98	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Cyclohexane	ND		6.87	0.945	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,2-Dibromo-3-Chloropropane	ND		6.87	2.48	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,2-Dichlorobenzene	ND		3.44	0.764	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,3-Dichlorobenzene	ND		3.44	1.13	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,4-Dichlorobenzene	ND		3.44	0.606	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Dichlorobromomethane	ND		3.44	1.03	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Dichlorodifluoromethane	ND		3.44	1.55	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1-Dichloroethane	ND		3.44	0.973	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,2-Dichloroethane	ND		3.44	1.24	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1-Dichloroethene	ND		3.44	1.25	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,2-Dichloropropane	ND		3.44	0.585	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Ethylbenzene	ND		3.44	0.719	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Ethylene Dibromide	ND		3.44	0.529	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
2-Hexanone	ND		13.7	2.81	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Isopropylbenzene	ND		3.44	1.32	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Methyl acetate	ND		17.2	2.34	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Methylcyclohexane	ND		6.87	0.843	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Methylene Chloride	ND		17.2	8.25	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
4-Methyl-2-pentanone (MIBK)	ND		13.7	2.55	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Methyl tert-butyl ether	ND		3.44	1.36	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Styrene	ND		3.44	0.796	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1,2,2-Tetrachloroethane	ND		3.44	0.983	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Tetrachloroethene	ND		3.44	2.67	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Toluene	ND		3.44	0.531	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
trans-1,2-Dichloroethene	ND		3.44	0.976	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
trans-1,3-Dichloropropene	ND		3.44	2.55	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,2,4-Trichlorobenzene	ND		3.44	1.72	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1,1-Trichloroethane	ND		3.44	1.22	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1,2-Trichloroethane	ND		3.44	0.778	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Trichloroethene	ND		3.44	0.985	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Trichlorofluoromethane	ND		3.44	1.85	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.44	0.881	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Vinyl chloride	ND		3.44	1.22	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1
Xylenes, Total	ND		6.87	1.09	ug/Kg	☼	11/09/23 11:15	11/15/23 06:01	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35)

Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4

Matrix: Solid
Percent Solids: 89.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/09/23 11:15*	*11/15/23 06:01*	*1*
Dibromofluoromethane (Surr)	*89*		*41 - 138*	*11/09/23 11:15*	*11/15/23 06:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*58 - 125*	*11/09/23 11:15*	*11/15/23 06:01*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/09/23 11:15*	*11/15/23 06:01*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Acenaphthylene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Acetophenone	ND		110	27.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Anthracene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Atrazine	ND		364	76.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzaldehyde	ND		364	61.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzo[a]anthracene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzo[a]pyrene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzo[b]fluoranthene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzo[g,h,i]perylene	ND		44.1	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Benzo[k]fluoranthene	ND		44.1	11.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
1,1'-Biphenyl	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Bis(2-chloroethoxy)methane	ND		110	22.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Bis(2-chloroethyl)ether	ND		110	24.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
bis (2-chloroisopropyl) ether	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Bis(2-ethylhexyl) phthalate	ND		165	61.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Bromophenyl phenyl ether	ND		110	35.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Butyl benzyl phthalate	ND		165	56.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Caprolactam	ND		364	76.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Carbazole	ND		110	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Chloroaniline	ND		165	17.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Chloro-3-methylphenol	ND		165	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Chloronaphthalene	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Chlorophenol	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Chlorophenyl phenyl ether	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Chrysene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Dibenz(a,h)anthracene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Dibenzofuran	ND		110	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
3,3'-Dichlorobenzidine	ND		165	105	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4-Dichlorophenol	ND		165	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Diethyl phthalate	ND		165	47.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4-Dimethylphenol	ND		165	39.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Dimethyl phthalate	ND		165	44.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Di-n-butyl phthalate	**51.9**	**J B**	165	26.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4,6-Dinitro-2-methylphenol	ND		364	115	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4-Dinitrophenol	ND		364	189	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4-Dinitrotoluene	ND		221	25.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,6-Dinitrotoluene	ND		221	39.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Di-n-octyl phthalate	ND		165	55.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Fluoranthene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Fluorene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Hexachlorobenzene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Hexachlorobutadiene	ND		110	23.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1

Client Sample ID: SB-2(33-35)
Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4
Matrix: Solid
Percent Solids: 89.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		364	43.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Hexachloroethane	ND		110	35.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Indeno[1,2,3-cd]pyrene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Isophorone	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Methylnaphthalene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Methylphenol	ND		221	45.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
3 & 4 Methylphenol	ND		441	45.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Naphthalene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Nitroaniline	ND		221	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
3-Nitroaniline	ND		221	38.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Nitroaniline	ND		221	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Nitrobenzene	ND		110	24.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2-Nitrophenol	ND		110	38.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
4-Nitrophenol	ND		364	99.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
N-Nitrosodi-n-propylamine	ND		110	40.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
N-Nitrosodiphenylamine	ND		110	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Pentachlorophenol	ND		298	116	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Phenanthrene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Phenol	ND		110	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
Pyrene	ND		44.1	17.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4,5-Trichlorophenol	ND		165	36.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1
2,4,6-Trichlorophenol	ND		165	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*42*		*34 - 120*	*11/13/23 08:41*	*11/14/23 19:09*	*1*
2-Fluorophenol (Surr)	*48*		*20 - 120*	*11/13/23 08:41*	*11/14/23 19:09*	*1*
Nitrobenzene-d5 (Surr)	*45*		*25 - 120*	*11/13/23 08:41*	*11/14/23 19:09*	*1*
Phenol-d5 (Surr)	*50*		*26 - 120*	*11/13/23 08:41*	*11/14/23 19:09*	*1*
Terphenyl-d14 (Surr)	*55*		*46 - 137*	*11/13/23 08:41*	*11/14/23 19:09*	*1*
2,4,6-Tribromophenol (Surr)	*43*		*10 - 120*	*11/13/23 08:41*	*11/14/23 19:09*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		10.8	8.08	mg/Kg	☼	11/10/23 13:25	11/16/23 17:34	1
Diesel	ND		10.8	4.30	mg/Kg	☼	11/10/23 13:25	11/16/23 17:34	1
Waste Oil	ND		10.8	2.20	mg/Kg	☼	11/10/23 13:25	11/16/23 17:34	1
Total Extractable Hydrocarbons	**6.70**	**J B Z**	16.2	4.30	mg/Kg	☼	11/10/23 13:25	11/16/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*12 - 126*	*11/10/23 13:25*	*11/16/23 17:34*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4730**		18.6	4.95	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Antimony	ND		1.86	0.333	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Arsenic	**4.02**		1.39	0.293	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Barium	**46.6**		18.6	0.336	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Beryllium	**0.351**	**J**	0.464	0.0501	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Cadmium	**0.205**	**J**	0.464	0.0445	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Calcium	**21600**		464	33.8	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35)

Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4

Matrix: Solid
Percent Solids: 89.0

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	13.0		0.928	0.318	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Cobalt	5.25		0.928	0.0687	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Copper	10.3		2.32	0.219	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Iron	11800		18.6	6.44	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Lead	5.78		0.928	0.262	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Magnesium	4670		464	14.2	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Manganese	168		1.39	0.240	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Nickel	15.1		3.71	0.460	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Potassium	774		464	33.2	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Selenium	ND		1.86	0.435	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Silver	ND		0.928	0.0752	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Sodium	ND		464	132	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Thallium	ND	^+	1.86	0.370	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Vanadium	17.6		4.64	0.763	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1
Zinc	29.3		4.64	1.27	mg/Kg	☼	11/10/23 15:00	11/13/23 15:55	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.110	0.0199	mg/Kg	☼	11/10/23 15:00	11/13/23 18:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	89.0		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	11.0		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35) DUP

Date Collected: 11/07/23 00:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-5

Matrix: Solid
Percent Solids: 88.6

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	H H3	16.4	13.8	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Benzene	ND	H H3	3.28	0.458	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Bromoform	ND	H H3	3.28	1.58	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Bromomethane	ND	H H3	3.28	2.73	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
2-Butanone (MEK)	ND	H H3	13.1	2.33	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Carbon disulfide	ND	H H3	3.28	0.764	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Carbon tetrachloride	ND	H H3	3.28	2.14	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Chlorobenzene	ND	H H3	3.28	0.602	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Chlorodibromomethane	ND	H H3	3.28	1.83	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Chloroethane	ND	H H3	3.28	1.80	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Chloroform	ND	H H3	3.28	0.517	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Chloromethane	ND	H H3	3.28	1.50	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
cis-1,2-Dichloroethene	ND	H H3	3.28	0.972	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
cis-1,3-Dichloropropene	ND	H H3	3.28	1.89	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Cyclohexane	ND	H H3	6.57	0.903	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,2-Dibromo-3-Chloropropane	ND	H H3	6.57	2.37	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,2-Dichlorobenzene	ND	H H3	3.28	0.730	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,3-Dichlorobenzene	ND	H H3	3.28	1.08	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,4-Dichlorobenzene	ND	H H3	3.28	0.579	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Dichlorobromomethane	ND	H H3	3.28	0.985	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Dichlorodifluoromethane	ND	H H3	3.28	1.49	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1-Dichloroethane	ND	H H3	3.28	0.930	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,2-Dichloroethane	ND	H H3	3.28	1.18	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1-Dichloroethene	ND	H H3	3.28	1.20	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,2-Dichloropropane	ND	H H3	3.28	0.559	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Ethylbenzene	ND	H H3	3.28	0.688	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Ethylene Dibromide	ND	H H3	3.28	0.506	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
2-Hexanone	ND	H H3	13.1	2.68	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Isopropylbenzene	ND	H H3	3.28	1.26	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Methyl acetate	ND	H H3	16.4	2.23	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Methylcyclohexane	ND	H H3	6.57	0.806	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Methylene Chloride	ND	H H3	16.4	7.88	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
4-Methyl-2-pentanone (MIBK)	ND	H H3	13.1	2.44	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Methyl tert-butyl ether	ND	H H3	3.28	1.30	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Styrene	ND	H H3	3.28	0.760	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1,2,2-Tetrachloroethane	ND	H H3	3.28	0.940	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Tetrachloroethene	ND	H H3	3.28	2.55	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Toluene	ND	H H3	3.28	0.508	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
trans-1,2-Dichloroethene	ND	H H3	3.28	0.932	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
trans-1,3-Dichloropropene	ND	H H3	3.28	2.44	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,2,4-Trichlorobenzene	ND	H H3	3.28	1.64	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1,1-Trichloroethane	ND	H H3	3.28	1.16	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1,2-Trichloroethane	ND	H H3	3.28	0.743	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Trichloroethene	ND	H H3	3.28	0.941	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Trichlorofluoromethane	ND	H H3	3.28	1.77	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	H H3	3.28	0.842	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Vinyl chloride	ND	H H3	3.28	1.16	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1
Xylenes, Total	ND	H H3	6.57	1.04	ug/Kg	☼	11/09/23 11:15	11/15/23 06:25	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35) DUP

Date Collected: 11/07/23 00:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-5

Matrix: Solid
Percent Solids: 88.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 143*	*11/09/23 11:15*	*11/15/23 06:25*	*1*
Dibromofluoromethane (Surr)	*89*		*41 - 138*	*11/09/23 11:15*	*11/15/23 06:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*58 - 125*	*11/09/23 11:15*	*11/15/23 06:25*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/09/23 11:15*	*11/15/23 06:25*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Acenaphthylene	ND		45.7	17.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Acetophenone	ND		114	28.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Anthracene	ND		45.7	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Atrazine	ND		377	78.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzaldehyde	ND		377	64.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzo[a]anthracene	ND		45.7	17.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzo[a]pyrene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzo[b]fluoranthene	ND		45.7	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzo[g,h,i]perylene	ND		45.7	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Benzo[k]fluoranthene	ND		45.7	11.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
1,1'-Biphenyl	ND		114	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Bis(2-chloroethoxy)methane	ND		114	22.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Bis(2-chloroethyl)ether	ND		114	25.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
bis (2-chloroisopropyl) ether	ND		114	29.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Bis(2-ethylhexyl) phthalate	ND		172	64.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Bromophenyl phenyl ether	ND		114	36.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Butyl benzyl phthalate	ND		172	58.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Caprolactam	ND		377	78.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Carbazole	ND		114	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Chloroaniline	ND		172	18.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Chloro-3-methylphenol	ND		172	43.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Chloronaphthalene	ND		114	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Chlorophenol	ND		114	29.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Chlorophenyl phenyl ether	ND		114	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Chrysene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Dibenz(a,h)anthracene	ND		45.7	17.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Dibenzofuran	ND		114	33.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
3,3'-Dichlorobenzidine	ND		172	109	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4-Dichlorophenol	ND		172	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Diethyl phthalate	ND		172	49.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4-Dimethylphenol	ND		172	41.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Dimethyl phthalate	ND		172	45.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Di-n-butyl phthalate	**54.1**	**J B**	172	27.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4,6-Dinitro-2-methylphenol	ND		377	119	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4-Dinitrophenol	ND		377	196	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4-Dinitrotoluene	ND		229	26.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,6-Dinitrotoluene	ND		229	41.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Di-n-octyl phthalate	ND		172	57.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Fluoranthene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Fluorene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Hexachlorobenzene	ND		45.7	16.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Hexachlorobutadiene	ND		114	24.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1

Client Sample ID: SB-2(33-35) DUP

Date Collected: 11/07/23 00:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-5

Matrix: Solid
Percent Solids: 88.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		377	44.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Hexachloroethane	ND		114	36.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Indeno[1,2,3-cd]pyrene	ND		45.7	13.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Isophorone	ND		114	29.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Methylnaphthalene	ND		45.7	14.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Methylphenol	ND		229	46.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
3 & 4 Methylphenol	ND		457	46.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Naphthalene	ND		45.7	14.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Nitroaniline	ND		229	43.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
3-Nitroaniline	ND		229	40.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Nitroaniline	ND		229	29.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Nitrobenzene	ND		114	25.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2-Nitrophenol	ND		114	40.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
4-Nitrophenol	ND		377	103	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
N-Nitrosodi-n-propylamine	ND		114	42.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
N-Nitrosodiphenylamine	ND		114	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Pentachlorophenol	ND		309	120	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Phenanthrene	ND		45.7	14.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Phenol	ND		114	43.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
Pyrene	ND		45.7	18.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4,5-Trichlorophenol	ND		172	37.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1
2,4,6-Trichlorophenol	ND		172	33.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*52*		*34 - 120*	*11/13/23 08:41*	*11/14/23 19:32*	*1*
2-Fluorophenol (Surr)	*56*		*20 - 120*	*11/13/23 08:41*	*11/14/23 19:32*	*1*
Nitrobenzene-d5 (Surr)	*52*		*25 - 120*	*11/13/23 08:41*	*11/14/23 19:32*	*1*
Phenol-d5 (Surr)	*58*		*26 - 120*	*11/13/23 08:41*	*11/14/23 19:32*	*1*
Terphenyl-d14 (Surr)	*66*		*46 - 137*	*11/13/23 08:41*	*11/14/23 19:32*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*10 - 120*	*11/13/23 08:41*	*11/14/23 19:32*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		10.7	8.06	mg/Kg	☼	11/10/23 13:25	11/16/23 17:49	1
Diesel	ND		10.7	4.29	mg/Kg	☼	11/10/23 13:25	11/16/23 17:49	1
Waste Oil	ND		10.7	2.19	mg/Kg	☼	11/10/23 13:25	11/16/23 17:49	1
Total Extractable Hydrocarbons	**6.16**	**J B Z**	16.1	4.29	mg/Kg	☼	11/10/23 13:25	11/16/23 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*12 - 126*	*11/10/23 13:25*	*11/16/23 17:49*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4690**		19.8	5.28	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Antimony	ND		1.98	0.356	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Arsenic	**3.41**		1.49	0.313	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Barium	**43.3**		19.8	0.359	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Beryllium	**0.354**	**J**	0.495	0.0535	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Cadmium	**0.196**	**J**	0.495	0.0475	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Calcium	**25300**		495	36.1	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35) DUP

Date Collected: 11/07/23 00:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-5

Matrix: Solid
Percent Solids: 88.6

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	11.5		0.990	0.340	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Cobalt	4.69		0.990	0.0733	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Copper	10.6		2.48	0.234	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Iron	11100		19.8	6.88	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Lead	5.36		0.990	0.279	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Magnesium	6180		495	15.1	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Manganese	139		1.49	0.257	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Nickel	15.1		3.96	0.491	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Potassium	762		495	35.4	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Selenium	ND		1.98	0.465	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Silver	ND		0.990	0.0802	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Sodium	ND		495	140	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Thallium	ND	^+	1.98	0.395	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Vanadium	16.7		4.95	0.814	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1
Zinc	29.4		4.95	1.35	mg/Kg	☼	11/10/23 15:00	11/13/23 16:07	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0212	J	0.0982	0.0177	mg/Kg	☼	11/10/23 15:00	11/13/23 18:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	88.6		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	11.4		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(0-3)

Date Collected: 11/07/23 14:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-6

Matrix: Solid
Percent Solids: 82.0

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.9	15.0	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Benzene	ND		3.58	0.500	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Bromoform	ND		3.58	1.72	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Bromomethane	ND		3.58	2.97	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
2-Butanone (MEK)	ND		14.3	2.55	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Carbon disulfide	ND		3.58	0.833	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Carbon tetrachloride	ND		3.58	2.33	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Chlorobenzene	ND		3.58	0.656	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Chlorodibromomethane	ND		3.58	1.99	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Chloroethane	ND		3.58	1.96	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Chloroform	ND		3.58	0.564	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Chloromethane	ND		3.58	1.63	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
cis-1,2-Dichloroethene	ND		3.58	1.06	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
cis-1,3-Dichloropropene	ND		3.58	2.06	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Cyclohexane	ND		7.16	0.985	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,2-Dibromo-3-Chloropropane	ND		7.16	2.58	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,2-Dichlorobenzene	ND		3.58	0.796	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,3-Dichlorobenzene	ND		3.58	1.18	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,4-Dichlorobenzene	ND		3.58	0.632	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Dichlorobromomethane	ND		3.58	1.07	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Dichlorodifluoromethane	ND		3.58	1.62	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1-Dichloroethane	ND		3.58	1.01	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,2-Dichloroethane	ND		3.58	1.29	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1-Dichloroethene	ND		3.58	1.30	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,2-Dichloropropane	ND		3.58	0.609	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Ethylbenzene	ND		3.58	0.750	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Ethylene Dibromide	ND		3.58	0.551	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
2-Hexanone	ND		14.3	2.92	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Isopropylbenzene	ND		3.58	1.38	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Methyl acetate	ND		17.9	2.44	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Methylcyclohexane	ND		7.16	0.879	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Methylene Chloride	ND		17.9	8.59	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
4-Methyl-2-pentanone (MIBK)	ND		14.3	2.66	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Methyl tert-butyl ether	ND		3.58	1.42	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Styrene	ND		3.58	0.829	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1,2,2-Tetrachloroethane	ND		3.58	1.02	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Tetrachloroethene	ND		3.58	2.78	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Toluene	ND		3.58	0.554	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
trans-1,2-Dichloroethene	ND		3.58	1.02	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
trans-1,3-Dichloropropene	ND		3.58	2.66	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,2,4-Trichlorobenzene	ND		3.58	1.79	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1,1-Trichloroethane	ND		3.58	1.27	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1,2-Trichloroethane	ND		3.58	0.811	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Trichloroethene	ND		3.58	1.03	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Trichlorofluoromethane	ND		3.58	1.93	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.58	0.918	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Vinyl chloride	ND		3.58	1.27	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1
Xylenes, Total	ND		7.16	1.14	ug/Kg	☼	11/09/23 11:15	11/15/23 06:49	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(0-3)

Date Collected: 11/07/23 14:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-6

Matrix: Solid
Percent Solids: 82.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*41 - 143*	*11/09/23 11:15*	*11/15/23 06:49*	*1*
Dibromofluoromethane (Surr)	*90*		*41 - 138*	*11/09/23 11:15*	*11/15/23 06:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*58 - 125*	*11/09/23 11:15*	*11/15/23 06:49*	*1*
Toluene-d8 (Surr)	*115*		*56 - 125*	*11/09/23 11:15*	*11/15/23 06:49*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Acenaphthylene	ND		48.7	18.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Acetophenone	ND		122	30.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Anthracene	**72.4**		48.7	14.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Atrazine	ND		402	84.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzaldehyde	ND		402	68.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzo[a]anthracene	**361**		48.7	18.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzo[a]pyrene	**382**		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzo[b]fluoranthene	**416**		48.7	14.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzo[g,h,i]perylene	**436**		48.7	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Benzo[k]fluoranthene	**86.5**		48.7	12.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
1,1'-Biphenyl	ND		122	34.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Bis(2-chloroethoxy)methane	ND		122	24.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Bis(2-chloroethyl)ether	ND		122	26.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
bis (2-chloroisopropyl) ether	ND		122	31.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Bis(2-ethylhexyl) phthalate	ND		183	68.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Bromophenyl phenyl ether	ND		122	38.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Butyl benzyl phthalate	ND		183	62.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Caprolactam	ND		402	84.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Carbazole	**65.6**	**J**	122	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Chloroaniline	ND		183	19.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Chloro-3-methylphenol	ND		183	46.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Chloronaphthalene	ND		122	34.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Chlorophenol	ND		122	31.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Chlorophenyl phenyl ether	ND		122	34.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Chrysene	**557**		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Dibenz(a,h)anthracene	**237**		48.7	18.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Dibenzofuran	ND		122	35.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
3,3'-Dichlorobenzidine	ND		183	116	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4-Dichlorophenol	ND		183	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Diethyl phthalate	ND		183	52.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4-Dimethylphenol	ND		183	43.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Dimethyl phthalate	ND		183	48.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Di-n-butyl phthalate	ND		183	29.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4,6-Dinitro-2-methylphenol	ND		402	127	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4-Dinitrophenol	ND		402	208	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4-Dinitrotoluene	ND		243	28.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,6-Dinitrotoluene	ND		243	43.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Di-n-octyl phthalate	ND		183	60.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Fluoranthene	**237**		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Fluorene	ND		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Hexachlorobenzene	ND		48.7	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Hexachlorobutadiene	ND		122	25.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(0-3)

Date Collected: 11/07/23 14:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-6

Matrix: Solid
Percent Solids: 82.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		402	47.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Hexachloroethane	ND		122	38.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Indeno[1,2,3-cd]pyrene	**197**		48.7	14.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Isophorone	ND		122	31.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Methylnaphthalene	**169**		48.7	15.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Methylphenol	ND		243	49.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
3 & 4 Methylphenol	ND		487	49.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Naphthalene	**97.9**		48.7	15.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Nitroaniline	ND		243	46.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
3-Nitroaniline	ND		243	42.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Nitroaniline	ND		243	31.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Nitrobenzene	ND		122	26.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2-Nitrophenol	ND		122	42.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
4-Nitrophenol	ND		402	110	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
N-Nitrosodi-n-propylamine	ND		122	45.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
N-Nitrosodiphenylamine	ND		122	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Pentachlorophenol	ND		329	128	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Phenanthrene	**381**		48.7	15.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Phenol	ND		122	46.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
Pyrene	**338**		48.7	19.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4,5-Trichlorophenol	ND		183	40.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1
2,4,6-Trichlorophenol	ND		183	35.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*69*		*34 - 120*	*11/13/23 08:41*	*11/15/23 15:10*	*1*
2-Fluorophenol (Surr)	*74*		*20 - 120*	*11/13/23 08:41*	*11/15/23 15:10*	*1*
Nitrobenzene-d5 (Surr)	*70*		*25 - 120*	*11/13/23 08:41*	*11/15/23 15:10*	*1*
Phenol-d5 (Surr)	*78*		*26 - 120*	*11/13/23 08:41*	*11/15/23 15:10*	*1*
Terphenyl-d14 (Surr)	*71*		*46 - 137*	*11/13/23 08:41*	*11/15/23 15:10*	*1*
2,4,6-Tribromophenol (Surr)	*75*		*10 - 120*	*11/13/23 08:41*	*11/15/23 15:10*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.8	8.87	mg/Kg	☼	11/10/23 13:25	11/16/23 18:04	1
Diesel	ND		11.8	4.72	mg/Kg	☼	11/10/23 13:25	11/16/23 18:04	1
Waste Oil	**33.1**		11.8	2.41	mg/Kg	☼	11/10/23 13:25	11/16/23 18:04	1
Total Extractable Hydrocarbons	**34.5**	**B**	17.7	4.72	mg/Kg	☼	11/10/23 13:25	11/16/23 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*56*		*12 - 126*	*11/10/23 13:25*	*11/16/23 18:04*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11000**		22.6	6.02	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Antimony	**1.02**	**J**	2.26	0.405	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Arsenic	**5.81**		1.69	0.357	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Barium	**121**		22.6	0.409	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Beryllium	**0.565**		0.565	0.0610	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Cadmium	**0.246**	**J**	0.565	0.0542	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Calcium	**5880**		565	41.2	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(0-3)

Date Collected: 11/07/23 14:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-6

Matrix: Solid
Percent Solids: 82.0

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	19.2		1.13	0.387	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Cobalt	9.60		1.13	0.0836	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Copper	18.3		2.82	0.266	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Iron	16700		22.6	7.84	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Lead	35.2		1.13	0.318	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Magnesium	2640		565	17.3	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Manganese	485		1.69	0.292	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Nickel	24.3		4.52	0.560	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Potassium	828		565	40.4	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Selenium	0.557	J	2.26	0.530	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Silver	ND		1.13	0.0915	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Sodium	ND		565	160	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Thallium	ND	^+	2.26	0.451	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Vanadium	26.5		5.65	0.928	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1
Zinc	59.2		5.65	1.54	mg/Kg	☼	11/10/23 15:00	11/13/23 16:12	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0442	J	0.111	0.0200	mg/Kg	☼	11/10/23 15:00	11/13/23 18:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	82.0		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	18.0		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(33-35)

Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7

Matrix: Solid
Percent Solids: 88.2

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.6	14.8	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Benzene	ND		3.52	0.491	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Bromoform	ND		3.52	1.69	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Bromomethane	ND		3.52	2.92	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
2-Butanone (MEK)	ND		14.1	2.50	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Carbon disulfide	ND		3.52	0.818	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Carbon tetrachloride	ND		3.52	2.29	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Chlorobenzene	ND		3.52	0.644	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Chlorodibromomethane	ND		3.52	1.96	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Chloroethane	ND		3.52	1.93	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Chloroform	ND		3.52	0.554	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Chloromethane	ND		3.52	1.60	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
cis-1,2-Dichloroethene	ND		3.52	1.04	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
cis-1,3-Dichloropropene	ND		3.52	2.03	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Cyclohexane	ND		7.03	0.967	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,2-Dibromo-3-Chloropropane	ND		7.03	2.54	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,2-Dichlorobenzene	ND		3.52	0.782	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,3-Dichlorobenzene	ND		3.52	1.16	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,4-Dichlorobenzene	ND		3.52	0.620	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Dichlorobromomethane	ND		3.52	1.06	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Dichlorodifluoromethane	ND		3.52	1.59	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1-Dichloroethane	ND		3.52	0.996	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,2-Dichloroethane	ND		3.52	1.27	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1-Dichloroethene	ND		3.52	1.28	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,2-Dichloropropane	ND		3.52	0.599	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Ethylbenzene	ND		3.52	0.737	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Ethylene Dibromide	ND		3.52	0.542	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
2-Hexanone	ND		14.1	2.87	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Isopropylbenzene	ND		3.52	1.35	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Methyl acetate	ND		17.6	2.39	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Methylcyclohexane	ND		7.03	0.863	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Methylene Chloride	ND		17.6	8.44	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
4-Methyl-2-pentanone (MIBK)	ND		14.1	2.61	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Methyl tert-butyl ether	ND		3.52	1.39	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Styrene	ND		3.52	0.815	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1,2,2-Tetrachloroethane	ND		3.52	1.01	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Tetrachloroethene	ND		3.52	2.73	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Toluene	ND		3.52	0.544	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
trans-1,2-Dichloroethene	ND		3.52	0.999	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
trans-1,3-Dichloropropene	ND		3.52	2.61	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,2,4-Trichlorobenzene	ND		3.52	1.76	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1,1-Trichloroethane	ND		3.52	1.25	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1,2-Trichloroethane	ND		3.52	0.796	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Trichloroethene	ND		3.52	1.01	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Trichlorofluoromethane	ND		3.52	1.89	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.52	0.902	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Vinyl chloride	ND		3.52	1.25	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1
Xylenes, Total	ND		7.03	1.12	ug/Kg	☼	11/09/23 11:15	11/15/23 19:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(33-35)

Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7

Matrix: Solid
Percent Solids: 88.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*	*11/09/23 11:15*	*11/15/23 19:14*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*	*11/09/23 11:15*	*11/15/23 19:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*58 - 125*	*11/09/23 11:15*	*11/15/23 19:14*	*1*
Toluene-d8 (Surr)	*106*		*56 - 125*	*11/09/23 11:15*	*11/15/23 19:14*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Acenaphthylene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Acetophenone	ND		110	27.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Anthracene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Atrazine	ND		364	76.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzaldehyde	ND		364	61.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzo[a]anthracene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzo[a]pyrene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzo[b]fluoranthene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzo[g,h,i]perylene	ND		44.1	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Benzo[k]fluoranthene	ND		44.1	11.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
1,1'-Biphenyl	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Bis(2-chloroethoxy)methane	ND		110	22.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Bis(2-chloroethyl)ether	ND		110	24.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
bis (2-chloroisopropyl) ether	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Bis(2-ethylhexyl) phthalate	ND		165	61.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Bromophenyl phenyl ether	ND		110	35.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Butyl benzyl phthalate	ND		165	56.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Caprolactam	ND		364	76.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Carbazole	ND		110	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Chloroaniline	ND		165	17.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Chloro-3-methylphenol	ND		165	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Chloronaphthalene	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Chlorophenol	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Chlorophenyl phenyl ether	ND		110	30.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Chrysene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Dibenz(a,h)anthracene	ND		44.1	16.5	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Dibenzofuran	ND		110	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
3,3'-Dichlorobenzidine	ND		165	105	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4-Dichlorophenol	ND		165	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Diethyl phthalate	ND		165	47.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4-Dimethylphenol	ND		165	39.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Dimethyl phthalate	ND		165	44.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Di-n-butyl phthalate	ND		165	26.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4,6-Dinitro-2-methylphenol	ND		364	115	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4-Dinitrophenol	ND		364	188	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4-Dinitrotoluene	ND		220	25.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,6-Dinitrotoluene	ND		220	39.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Di-n-octyl phthalate	ND		165	55.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Fluoranthene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Fluorene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Hexachlorobenzene	ND		44.1	15.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Hexachlorobutadiene	ND		110	23.1	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(33-35)

Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7

Matrix: Solid
Percent Solids: 88.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		364	43.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Hexachloroethane	ND		110	35.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Indeno[1,2,3-cd]pyrene	ND		44.1	13.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Isophorone	ND		110	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Methylnaphthalene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Methylphenol	ND		220	45.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
3 & 4 Methylphenol	ND		441	45.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Naphthalene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Nitroaniline	ND		220	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
3-Nitroaniline	ND		220	38.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Nitroaniline	ND		220	28.7	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Nitrobenzene	ND		110	24.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2-Nitrophenol	ND		110	38.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
4-Nitrophenol	ND		364	99.2	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
N-Nitrosodi-n-propylamine	ND		110	40.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
N-Nitrosodiphenylamine	ND		110	29.8	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Pentachlorophenol	ND		298	116	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Phenanthrene	ND		44.1	14.3	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Phenol	ND		110	41.9	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
Pyrene	ND		44.1	17.6	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4,5-Trichlorophenol	ND		165	36.4	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1
2,4,6-Trichlorophenol	ND		165	32.0	ug/Kg	☼	11/13/23 08:41	11/14/23 19:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*34 - 120*	*11/13/23 08:41*	*11/14/23 19:56*	*1*
2-Fluorophenol (Surr)	*67*		*20 - 120*	*11/13/23 08:41*	*11/14/23 19:56*	*1*
Nitrobenzene-d5 (Surr)	*61*		*25 - 120*	*11/13/23 08:41*	*11/14/23 19:56*	*1*
Phenol-d5 (Surr)	*68*		*26 - 120*	*11/13/23 08:41*	*11/14/23 19:56*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 137*	*11/13/23 08:41*	*11/14/23 19:56*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*10 - 120*	*11/13/23 08:41*	*11/14/23 19:56*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.0	8.24	mg/Kg	☼	11/10/23 13:25	11/16/23 18:19	1
Diesel	ND		11.0	4.39	mg/Kg	☼	11/10/23 13:25	11/16/23 18:19	1
Waste Oil	ND		11.0	2.24	mg/Kg	☼	11/10/23 13:25	11/16/23 18:19	1
Total Extractable Hydrocarbons	**8.33**	**J B Z**	16.5	4.39	mg/Kg	☼	11/10/23 13:25	11/16/23 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*95*		*12 - 126*	*11/10/23 13:25*	*11/16/23 18:19*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5360**		19.9	5.31	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Antimony	ND		1.99	0.357	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Arsenic	**4.21**		1.49	0.314	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Barium	**39.8**		19.9	0.360	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Beryllium	**0.405**	**J**	0.497	0.0537	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Cadmium	**0.153**	**J**	0.497	0.0478	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Calcium	**22400**		497	36.3	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(33-35)

Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7

Matrix: Solid
Percent Solids: 88.2

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.4		0.995	0.341	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Cobalt	5.56		0.995	0.0736	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Copper	9.27		2.49	0.235	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Iron	12000		19.9	6.91	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Lead	6.63		0.995	0.281	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Magnesium	5030		497	15.2	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Manganese	203		1.49	0.258	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Nickel	15.2		3.98	0.494	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Potassium	878		497	35.6	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Selenium	ND		1.99	0.467	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Silver	ND		0.995	0.0806	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Sodium	ND		497	141	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Thallium	ND	^+	1.99	0.397	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Vanadium	19.5		4.97	0.818	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1
Zinc	29.5		4.97	1.36	mg/Kg	☼	11/10/23 15:00	11/13/23 16:16	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.113	0.0204	mg/Kg	☼	11/10/23 15:00	11/13/23 18:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	88.2		0.1	0.1	%			11/10/23 17:11	1
Percent Moisture (EPA Moisture)	11.8		0.1	0.1	%			11/10/23 17:11	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(0-3)

Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8

Matrix: Solid
Percent Solids: 82.4

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		24.4	20.5	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Benzene	ND		4.89	0.683	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Bromoform	ND		4.89	2.35	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Bromomethane	ND		4.89	4.06	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
2-Butanone (MEK)	ND		19.6	3.48	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Carbon disulfide	ND		4.89	1.14	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Carbon tetrachloride	ND		4.89	3.18	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Chlorobenzene	ND		4.89	0.896	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Chlorodibromomethane	ND		4.89	2.72	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Chloroethane	ND		4.89	2.68	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Chloroform	ND		4.89	0.771	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Chloromethane	ND		4.89	2.23	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
cis-1,2-Dichloroethene	ND		4.89	1.45	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
cis-1,3-Dichloropropene	ND		4.89	2.82	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Cyclohexane	ND		9.78	1.34	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,2-Dibromo-3-Chloropropane	ND		9.78	3.53	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,2-Dichlorobenzene	ND		4.89	1.09	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,3-Dichlorobenzene	ND		4.89	1.61	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,4-Dichlorobenzene	ND		4.89	0.862	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Dichlorobromomethane	ND		4.89	1.47	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Dichlorodifluoromethane	ND		4.89	2.21	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1-Dichloroethane	ND		4.89	1.38	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,2-Dichloroethane	ND		4.89	1.76	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1-Dichloroethene	ND		4.89	1.78	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,2-Dichloropropane	ND		4.89	0.832	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Ethylbenzene	ND		4.89	1.02	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Ethylene Dibromide	ND		4.89	0.753	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
2-Hexanone	ND		19.6	3.99	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Isopropylbenzene	ND		4.89	1.88	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Methyl acetate	ND		24.4	3.33	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Methylcyclohexane	ND		9.78	1.20	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Methylene Chloride	ND		24.4	11.7	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
4-Methyl-2-pentanone (MIBK)	ND		19.6	3.63	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Methyl tert-butyl ether	ND		4.89	1.94	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Styrene	ND		4.89	1.13	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1,2,2-Tetrachloroethane	ND		4.89	1.40	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Tetrachloroethene	ND		4.89	3.80	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Toluene	ND		4.89	0.756	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
trans-1,2-Dichloroethene	ND		4.89	1.39	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
trans-1,3-Dichloropropene	ND		4.89	3.63	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,2,4-Trichlorobenzene	ND		4.89	2.44	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1,1-Trichloroethane	ND		4.89	1.73	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1,2-Trichloroethane	ND		4.89	1.11	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Trichloroethene	ND		4.89	1.40	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Trichlorofluoromethane	ND		4.89	2.63	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.89	1.25	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Vinyl chloride	ND		4.89	1.73	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1
Xylenes, Total	ND		9.78	1.55	ug/Kg	☼	11/09/23 11:15	11/15/23 20:50	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(0-3)

Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8

Matrix: Solid
Percent Solids: 82.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 143*	*11/09/23 11:15*	*11/15/23 20:50*	*1*
Dibromofluoromethane (Surr)	*92*		*41 - 138*	*11/09/23 11:15*	*11/15/23 20:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*58 - 125*	*11/09/23 11:15*	*11/15/23 20:50*	*1*
Toluene-d8 (Surr)	*111*		*56 - 125*	*11/09/23 11:15*	*11/15/23 20:50*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Acenaphthylene	ND		49.2	18.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Acetophenone	ND		123	30.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Anthracene	ND		49.2	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Atrazine	ND		406	84.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzaldehyde	ND		406	68.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzo[a]anthracene	**76.8**		49.2	18.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzo[a]pyrene	**75.7**		49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzo[b]fluoranthene	**62.5**		49.2	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzo[g,h,i]perylene	**72.6**		49.2	33.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Benzo[k]fluoranthene	ND		49.2	12.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
1,1'-Biphenyl	ND		123	34.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Bis(2-chloroethoxy)methane	ND		123	24.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Bis(2-chloroethyl)ether	ND		123	27.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
bis (2-chloroisopropyl) ether	ND		123	32.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Bis(2-ethylhexyl) phthalate	ND		184	68.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Bromophenyl phenyl ether	ND		123	39.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Butyl benzyl phthalate	ND		184	62.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Caprolactam	ND		406	84.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Carbazole	ND		123	33.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Chloroaniline	ND		184	19.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Chloro-3-methylphenol	ND		184	46.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Chloronaphthalene	ND		123	34.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Chlorophenol	ND		123	32.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Chlorophenyl phenyl ether	ND		123	34.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Chrysene	**147**		49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Dibenz(a,h)anthracene	**43.4**	**J**	49.2	18.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Dibenzofuran	ND		123	35.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
3,3'-Dichlorobenzidine	ND		184	117	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4-Dichlorophenol	ND		184	33.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Diethyl phthalate	ND		184	52.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4-Dimethylphenol	ND		184	44.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Dimethyl phthalate	ND		184	49.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Di-n-butyl phthalate	ND		184	29.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4,6-Dinitro-2-methylphenol	ND		406	128	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4-Dinitrophenol	ND		406	210	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4-Dinitrotoluene	ND		246	28.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,6-Dinitrotoluene	ND		246	44.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Di-n-octyl phthalate	ND		184	61.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Fluoranthene	**28.7**	**J**	49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Fluorene	ND		49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Hexachlorobenzene	ND		49.2	17.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Hexachlorobutadiene	ND		123	25.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(0-3)

Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8

Matrix: Solid
Percent Solids: 82.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		406	47.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Hexachloroethane	ND		123	39.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Indeno[1,2,3-cd]pyrene	**45.3**	**J**	49.2	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Isophorone	ND		123	32.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Methylnaphthalene	**30.1**	**J**	49.2	16.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Methylphenol	ND		246	50.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
3 & 4 Methylphenol	ND		492	50.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Naphthalene	**16.8**	**J**	49.2	16.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Nitroaniline	ND		246	46.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
3-Nitroaniline	ND		246	43.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Nitroaniline	ND		246	32.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Nitrobenzene	ND		123	27.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2-Nitrophenol	ND		123	43.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
4-Nitrophenol	ND		406	111	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
N-Nitrosodi-n-propylamine	ND		123	45.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
N-Nitrosodiphenylamine	ND		123	33.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Pentachlorophenol	ND		332	129	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Phenanthrene	**148**		49.2	16.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Phenol	ND		123	46.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
Pyrene	**93.0**		49.2	19.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4,5-Trichlorophenol	ND		184	40.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1
2,4,6-Trichlorophenol	ND		184	35.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*34 - 120*	*11/13/23 08:41*	*11/15/23 15:34*	*1*
2-Fluorophenol (Surr)	*65*		*20 - 120*	*11/13/23 08:41*	*11/15/23 15:34*	*1*
Nitrobenzene-d5 (Surr)	*63*		*25 - 120*	*11/13/23 08:41*	*11/15/23 15:34*	*1*
Phenol-d5 (Surr)	*70*		*26 - 120*	*11/13/23 08:41*	*11/15/23 15:34*	*1*
Terphenyl-d14 (Surr)	*73*		*46 - 137*	*11/13/23 08:41*	*11/15/23 15:34*	*1*
2,4,6-Tribromophenol (Surr)	*47*		*10 - 120*	*11/13/23 08:41*	*11/15/23 15:34*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.8	8.83	mg/Kg	☼	11/10/23 13:25	11/16/23 18:34	1
Diesel	ND		11.8	4.70	mg/Kg	☼	11/10/23 13:25	11/16/23 18:34	1
Waste Oil	**37.1**		11.8	2.40	mg/Kg	☼	11/10/23 13:25	11/16/23 18:34	1
Total Extractable Hydrocarbons	**39.6**	**B**	17.7	4.70	mg/Kg	☼	11/10/23 13:25	11/16/23 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*92*		*12 - 126*	*11/10/23 13:25*	*11/16/23 18:34*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11800**		21.3	5.68	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Antimony	**0.693**	**J**	2.13	0.382	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Arsenic	**10.2**		1.60	0.336	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Barium	**132**		21.3	0.385	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Beryllium	**0.678**		0.532	0.0575	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Cadmium	**0.167**	**J**	0.532	0.0511	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Calcium	**3080**		532	38.8	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(0-3)

Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8

Matrix: Solid
Percent Solids: 82.4

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	16.1		1.06	0.365	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Cobalt	7.36		1.06	0.0788	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Copper	13.4		2.66	0.251	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Iron	17600		21.3	7.39	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Lead	29.1		1.06	0.300	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Magnesium	2220		532	16.3	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Manganese	598		1.60	0.276	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Nickel	12.1		4.26	0.528	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Potassium	717		532	38.1	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Selenium	0.883	J	2.13	0.499	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Silver	ND		1.06	0.0862	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Sodium	ND		532	151	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Thallium	ND	^+	2.13	0.425	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Vanadium	33.3		5.32	0.875	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1
Zinc	55.4		5.32	1.46	mg/Kg	☼	11/10/23 15:00	11/13/23 16:21	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0652	J	0.112	0.0202	mg/Kg	☼	11/10/23 15:00	11/13/23 18:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	82.4		0.1	0.1	%			11/10/23 17:11	1
Percent Moisture (EPA Moisture)	17.6		0.1	0.1	%			11/10/23 17:11	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9

Matrix: Solid
Percent Solids: 88.2

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.5	14.7	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Benzene	ND		3.49	0.487	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Bromoform	ND		3.49	1.68	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Bromomethane	ND		3.49	2.90	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
2-Butanone (MEK)	ND		14.0	2.48	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Carbon disulfide	ND		3.49	0.812	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Carbon tetrachloride	ND		3.49	2.27	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Chlorobenzene	ND		3.49	0.640	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Chlorodibromomethane	ND		3.49	1.94	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Chloroethane	ND		3.49	1.91	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Chloroform	ND		3.49	0.550	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Chloromethane	ND		3.49	1.59	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
cis-1,2-Dichloroethene	ND		3.49	1.03	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
cis-1,3-Dichloropropene	ND		3.49	2.01	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Cyclohexane	ND		6.98	0.960	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,2-Dibromo-3-Chloropropane	ND		6.98	2.52	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,2-Dichlorobenzene	ND		3.49	0.777	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,3-Dichlorobenzene	ND		3.49	1.15	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,4-Dichlorobenzene	ND		3.49	0.616	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Dichlorobromomethane	ND		3.49	1.05	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Dichlorodifluoromethane	ND		3.49	1.58	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1-Dichloroethane	ND		3.49	0.989	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,2-Dichloroethane	ND		3.49	1.26	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1-Dichloroethene	ND		3.49	1.27	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,2-Dichloropropane	ND		3.49	0.594	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Ethylbenzene	ND		3.49	0.731	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Ethylene Dibromide	ND		3.49	0.538	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
2-Hexanone	ND		14.0	2.85	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Isopropylbenzene	ND		3.49	1.34	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Methyl acetate	ND		17.5	2.38	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Methylcyclohexane	ND		6.98	0.857	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Methylene Chloride	ND		17.5	8.38	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
4-Methyl-2-pentanone (MIBK)	ND		14.0	2.59	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Methyl tert-butyl ether	ND		3.49	1.38	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Styrene	ND		3.49	0.809	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1,2,2-Tetrachloroethane	ND		3.49	0.999	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Tetrachloroethene	ND		3.49	2.71	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Toluene	ND		3.49	0.540	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
trans-1,2-Dichloroethene	ND		3.49	0.992	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
trans-1,3-Dichloropropene	ND		3.49	2.59	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,2,4-Trichlorobenzene	ND		3.49	1.75	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1,1-Trichloroethane	ND		3.49	1.24	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1,2-Trichloroethane	ND		3.49	0.791	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Trichloroethene	ND		3.49	1.00	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Trichlorofluoromethane	ND		3.49	1.88	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.49	0.895	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Vinyl chloride	ND		3.49	1.24	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1
Xylenes, Total	ND		6.98	1.11	ug/Kg	☼	11/09/23 11:15	11/15/23 21:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9

Matrix: Solid
Percent Solids: 88.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 143*	*11/09/23 11:15*	*11/15/23 21:14*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*	*11/09/23 11:15*	*11/15/23 21:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*58 - 125*	*11/09/23 11:15*	*11/15/23 21:14*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/09/23 11:15*	*11/15/23 21:14*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Acenaphthylene	ND		44.7	16.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Acetophenone	ND		112	27.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Anthracene	ND		44.7	13.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Atrazine	ND		369	77.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzaldehyde	ND		369	62.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzo[a]anthracene	ND		44.7	16.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzo[a]pyrene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzo[b]fluoranthene	ND		44.7	13.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzo[g,h,i]perylene	ND		44.7	30.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Benzo[k]fluoranthene	ND		44.7	11.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
1,1'-Biphenyl	ND		112	31.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Bis(2-chloroethoxy)methane	ND		112	22.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Bis(2-chloroethyl)ether	ND		112	24.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
bis (2-chloroisopropyl) ether	ND		112	29.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Bis(2-ethylhexyl) phthalate	ND		168	62.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Bromophenyl phenyl ether	ND		112	35.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Butyl benzyl phthalate	ND		168	57.0	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Caprolactam	ND		369	77.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Carbazole	ND		112	30.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Chloroaniline	ND		168	17.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Chloro-3-methylphenol	ND		168	42.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Chloronaphthalene	ND		112	31.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Chlorophenol	ND		112	29.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Chlorophenyl phenyl ether	ND		112	31.3	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Chrysene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Dibenz(a,h)anthracene	ND		44.7	16.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Dibenzofuran	ND		112	32.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
3,3'-Dichlorobenzidine	ND		168	106	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4-Dichlorophenol	ND		168	30.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Diethyl phthalate	ND		168	48.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4-Dimethylphenol	ND		168	40.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Dimethyl phthalate	ND		168	44.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Di-n-butyl phthalate	**59.8**	**J B**	168	26.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4,6-Dinitro-2-methylphenol	ND		369	116	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4-Dinitrophenol	ND		369	191	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4-Dinitrotoluene	ND		224	25.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,6-Dinitrotoluene	ND		224	40.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Di-n-octyl phthalate	ND		168	55.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Fluoranthene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Fluorene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Hexachlorobenzene	ND		44.7	15.7	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Hexachlorobutadiene	ND		112	23.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9

Matrix: Solid
Percent Solids: 88.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		369	43.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Hexachloroethane	ND		112	35.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Indeno[1,2,3-cd]pyrene	ND		44.7	13.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Isophorone	ND		112	29.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Methylnaphthalene	ND		44.7	14.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Methylphenol	ND		224	45.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
3 & 4 Methylphenol	ND		447	45.8	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Naphthalene	ND		44.7	14.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Nitroaniline	ND		224	42.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
3-Nitroaniline	ND		224	39.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Nitroaniline	ND		224	29.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Nitrobenzene	ND		112	24.6	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2-Nitrophenol	ND		112	39.1	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
4-Nitrophenol	ND		369	101	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
N-Nitrosodi-n-propylamine	ND		112	41.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
N-Nitrosodiphenylamine	ND		112	30.2	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Pentachlorophenol	ND		302	117	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Phenanthrene	ND		44.7	14.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Phenol	ND		112	42.5	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
Pyrene	ND		44.7	17.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4,5-Trichlorophenol	ND		168	36.9	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1
2,4,6-Trichlorophenol	ND		168	32.4	ug/Kg	☼	11/13/23 08:41	11/15/23 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*34 - 120*	*11/13/23 08:41*	*11/15/23 15:57*	*1*
2-Fluorophenol (Surr)	*70*		*20 - 120*	*11/13/23 08:41*	*11/15/23 15:57*	*1*
Nitrobenzene-d5 (Surr)	*65*		*25 - 120*	*11/13/23 08:41*	*11/15/23 15:57*	*1*
Phenol-d5 (Surr)	*69*		*26 - 120*	*11/13/23 08:41*	*11/15/23 15:57*	*1*
Terphenyl-d14 (Surr)	*73*		*46 - 137*	*11/13/23 08:41*	*11/15/23 15:57*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*10 - 120*	*11/13/23 08:41*	*11/15/23 15:57*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.0	8.27	mg/Kg	☼	11/10/23 13:25	11/16/23 18:49	1
Diesel	ND		11.0	4.40	mg/Kg	☼	11/10/23 13:25	11/16/23 18:49	1
Waste Oil	ND		11.0	2.25	mg/Kg	☼	11/10/23 13:25	11/16/23 18:49	1
Total Extractable Hydrocarbons	**8.46**	**J B Z**	16.5	4.40	mg/Kg	☼	11/10/23 13:25	11/16/23 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*12 - 126*	*11/10/23 13:25*	*11/16/23 18:49*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5200**		18.4	4.92	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Antimony	ND		1.84	0.331	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Arsenic	**6.49**		1.38	0.291	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Barium	**55.6**		18.4	0.334	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Beryllium	**0.448**	**J**	0.461	0.0498	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Cadmium	**0.208**	**J**	0.461	0.0442	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Calcium	**20700**		461	33.6	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9

Matrix: Solid
Percent Solids: 88.2

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.8		0.922	0.316	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Cobalt	8.30		0.922	0.0682	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Copper	11.2		2.30	0.217	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Iron	16600		18.4	6.40	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Lead	6.66		0.922	0.260	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Magnesium	4570		461	14.1	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Manganese	304		1.38	0.239	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Nickel	20.5		3.69	0.457	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Potassium	750		461	33.0	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Selenium	ND		1.84	0.432	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Silver	ND		0.922	0.0746	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Sodium	ND		461	131	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Thallium	ND	^+	1.84	0.368	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Vanadium	21.8		4.61	0.758	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1
Zinc	34.2		4.61	1.26	mg/Kg	☼	11/10/23 15:00	11/13/23 16:25	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.124	0.0223	mg/Kg	☼	11/10/23 15:00	11/13/23 18:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	88.2		0.1	0.1	%			11/10/23 17:11	1
Percent Moisture (EPA Moisture)	11.8		0.1	0.1	%			11/10/23 17:11	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(41-143)	(41-138)	(58-125)	(56-125)
240-195063-1	SB-1(0-3)	108	88	95	107
240-195063-2	SB-1(33-35)	105	87	95	109
240-195063-3	SB-2(0-3)	114	83	96	110
240-195063-4	SB-2(33-35)	108	89	95	108
240-195063-5	SB-2(33-35) DUP	106	89	105	107
240-195063-6	SB-3(0-3)	122	90	95	115
240-195063-7	SB-3(33-35)	107	91	104	106
240-195063-8	SB-4(0-3)	110	92	101	111
240-195063-9	SB-4(33-35)	110	91	108	108
LCS 240-594617/4	Lab Control Sample	108	95	100	107
LCS 240-594763/4	Lab Control Sample	105	93	97	105
MB 240-594617/6	Method Blank	109	90	103	107
MB 240-594763/7	Method Blank	105	91	100	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(20-120)	(25-120)	(26-120)	(46-137)	(10-120)
240-195063-1	SB-1(0-3)	57	60	58	63	63	48
240-195063-2	SB-1(33-35)	51	54	51	57	55	43
240-195063-3	SB-2(0-3)	61	62	60	64	70	23
240-195063-4	SB-2(33-35)	42	48	45	50	55	43
240-195063-5	SB-2(33-35) DUP	52	56	52	58	66	52
240-195063-6	SB-3(0-3)	69	74	70	78	71	75
240-195063-7	SB-3(33-35)	61	67	61	68	70	55
240-195063-8	SB-4(0-3)	64	65	63	70	73	47
240-195063-9	SB-4(33-35)	64	70	65	69	73	53
LCS 240-594331/2-A	Lab Control Sample	73	79	80	81	81	84
MB 240-594331/1-A	Method Blank	62	67	63	67	67	61

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**OTCN (12-126)**							
240-195063-1	SB-1(0-3)	56							
240-195063-1 MS	SB-1(0-3)	66							
240-195063-1 MSD	SB-1(0-3)	55							
240-195063-2	SB-1(33-35)	91							
240-195063-3	SB-2(0-3)	99							
240-195063-4	SB-2(33-35)	85							
240-195063-5	SB-2(33-35) DUP	87							
240-195063-6	SB-3(0-3)	56							
240-195063-7	SB-3(33-35)	95							
240-195063-8	SB-4(0-3)	92							
240-195063-9	SB-4(33-35)	93							
LCS 310-405656/2-A	Lab Control Sample	89							
MB 310-405656/1-A	Method Blank	86							

Surrogate Legend

OTCN = n-Octacosane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-594617/6
Matrix: Solid
Analysis Batch: 594617

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/14/23 20:49	1
Benzene	ND		5.00	0.698	ug/Kg			11/14/23 20:49	1
Bromoform	ND		5.00	2.40	ug/Kg			11/14/23 20:49	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/14/23 20:49	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/14/23 20:49	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/14/23 20:49	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/14/23 20:49	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/14/23 20:49	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/14/23 20:49	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/14/23 20:49	1
Chloroform	ND		5.00	0.788	ug/Kg			11/14/23 20:49	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/14/23 20:49	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/14/23 20:49	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/14/23 20:49	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/14/23 20:49	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/14/23 20:49	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/14/23 20:49	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/14/23 20:49	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/14/23 20:49	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/14/23 20:49	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/14/23 20:49	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/14/23 20:49	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/14/23 20:49	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/14/23 20:49	1
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/14/23 20:49	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/14/23 20:49	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/14/23 20:49	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/14/23 20:49	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/14/23 20:49	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/14/23 20:49	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/14/23 20:49	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/14/23 20:49	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/14/23 20:49	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/14/23 20:49	1
Styrene	ND		5.00	1.16	ug/Kg			11/14/23 20:49	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/14/23 20:49	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/14/23 20:49	1
Toluene	ND		5.00	0.773	ug/Kg			11/14/23 20:49	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/14/23 20:49	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/14/23 20:49	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/14/23 20:49	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/14/23 20:49	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/14/23 20:49	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/14/23 20:49	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/14/23 20:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/14/23 20:49	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/14/23 20:49	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/14/23 20:49	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-594617/6
Matrix: Solid
Analysis Batch: 594617

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		41 - 143		11/14/23 20:49	1
Dibromofluoromethane (Surr)	90		41 - 138		11/14/23 20:49	1
1,2-Dichloroethane-d4 (Surr)	103		58 - 125		11/14/23 20:49	1
Toluene-d8 (Surr)	107		56 - 125		11/14/23 20:49	1

Lab Sample ID: LCS 240-594617/4
Matrix: Solid
Analysis Batch: 594617

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	47.22		ug/Kg		94	58 - 160
Benzene	25.0	23.49		ug/Kg		94	76 - 121
Bromoform	25.0	16.51		ug/Kg		66	57 - 140
Bromomethane	25.0	23.70		ug/Kg		95	10 - 171
2-Butanone (MEK)	50.0	42.58		ug/Kg		85	63 - 142
Carbon disulfide	25.0	25.08		ug/Kg		100	43 - 152
Carbon tetrachloride	25.0	19.24		ug/Kg		77	64 - 144
Chlorobenzene	25.0	22.16		ug/Kg		89	80 - 120
Chlorodibromomethane	25.0	19.61		ug/Kg		78	68 - 131
Chloroethane	25.0	21.28		ug/Kg		85	11 - 164
Chloroform	25.0	20.12		ug/Kg		80	78 - 120
Chloromethane	25.0	21.76		ug/Kg		87	41 - 142
cis-1,2-Dichloroethene	25.0	22.39		ug/Kg		90	78 - 124
cis-1,3-Dichloropropene	25.0	20.42		ug/Kg		82	70 - 133
Cyclohexane	25.0	24.89		ug/Kg		100	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	18.08		ug/Kg		72	52 - 133
1,2-Dichlorobenzene	25.0	22.14		ug/Kg		89	73 - 120
1,3-Dichlorobenzene	25.0	22.35		ug/Kg		89	73 - 120
1,4-Dichlorobenzene	25.0	22.02		ug/Kg		88	74 - 120
Dichlorobromomethane	25.0	20.18		ug/Kg		81	71 - 138
Dichlorodifluoromethane	25.0	19.39		ug/Kg		78	21 - 150
1,1-Dichloroethane	25.0	24.01		ug/Kg		96	74 - 121
1,2-Dichloroethane	25.0	20.56		ug/Kg		82	71 - 123
1,1-Dichloroethene	25.0	25.29		ug/Kg		101	68 - 141
1,2-Dichloropropane	25.0	24.68		ug/Kg		99	76 - 126
Ethylbenzene	25.0	22.77		ug/Kg		91	80 - 120
Ethylene Dibromide	25.0	21.02		ug/Kg		84	80 - 121
2-Hexanone	50.0	48.17		ug/Kg		96	65 - 142
Isopropylbenzene	25.0	23.62		ug/Kg		94	80 - 130
Methyl acetate	50.0	41.28		ug/Kg		83	60 - 133
Methylcyclohexane	25.0	23.91		ug/Kg		96	70 - 138
Methylene Chloride	25.0	24.14	J	ug/Kg		97	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	46.78		ug/Kg		94	62 - 142
Methyl tert-butyl ether	25.0	21.21		ug/Kg		85	70 - 130
m-Xylene & p-Xylene	25.0	22.90		ug/Kg		92	80 - 122
o-Xylene	25.0	22.42		ug/Kg		90	80 - 124
Styrene	25.0	22.60		ug/Kg		90	75 - 140
1,1,2,2-Tetrachloroethane	25.0	23.03		ug/Kg		92	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-594617/4
Matrix: Solid
Analysis Batch: 594617

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	25.0	22.03		ug/Kg		88	76 - 127
Toluene	25.0	23.76		ug/Kg		95	80 - 120
trans-1,2-Dichloroethene	25.0	23.19		ug/Kg		93	76 - 130
trans-1,3-Dichloropropene	25.0	21.69		ug/Kg		87	61 - 121
1,2,4-Trichlorobenzene	25.0	23.40		ug/Kg		94	58 - 132
1,1,1-Trichloroethane	25.0	21.15		ug/Kg		85	74 - 136
1,1,2-Trichloroethane	25.0	23.26		ug/Kg		93	79 - 120
Trichloroethene	25.0	22.65		ug/Kg		91	74 - 130
Trichlorofluoromethane	25.0	20.90		ug/Kg		84	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.57		ug/Kg		90	64 - 148
Vinyl chloride	25.0	21.95		ug/Kg		88	49 - 146
Xylenes, Total	50.0	45.32		ug/Kg		91	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*
Dibromofluoromethane (Surr)	*95*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*100*		*58 - 125*
Toluene-d8 (Surr)	*107*		*56 - 125*

Lab Sample ID: MB 240-594763/7
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/15/23 18:50	1
Benzene	ND		5.00	0.698	ug/Kg			11/15/23 18:50	1
Bromoform	ND		5.00	2.40	ug/Kg			11/15/23 18:50	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/15/23 18:50	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/15/23 18:50	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/15/23 18:50	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/15/23 18:50	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/15/23 18:50	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/15/23 18:50	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/15/23 18:50	1
Chloroform	ND		5.00	0.788	ug/Kg			11/15/23 18:50	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/15/23 18:50	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/15/23 18:50	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/15/23 18:50	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/15/23 18:50	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/15/23 18:50	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/15/23 18:50	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/15/23 18:50	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/15/23 18:50	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/15/23 18:50	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/15/23 18:50	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/15/23 18:50	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/15/23 18:50	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/15/23 18:50	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-594763/7
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/15/23 18:50	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/15/23 18:50	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/15/23 18:50	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/15/23 18:50	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/15/23 18:50	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/15/23 18:50	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/15/23 18:50	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/15/23 18:50	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/15/23 18:50	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/15/23 18:50	1
Styrene	ND		5.00	1.16	ug/Kg			11/15/23 18:50	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/15/23 18:50	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/15/23 18:50	1
Toluene	ND		5.00	0.773	ug/Kg			11/15/23 18:50	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/15/23 18:50	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/15/23 18:50	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/15/23 18:50	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/15/23 18:50	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/15/23 18:50	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/15/23 18:50	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/15/23 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/15/23 18:50	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/15/23 18:50	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/15/23 18:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 143*		*11/15/23 18:50*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*		*11/15/23 18:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*58 - 125*		*11/15/23 18:50*	*1*
Toluene-d8 (Surr)	*105*		*56 - 125*		*11/15/23 18:50*	*1*

Lab Sample ID: LCS 240-594763/4
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	51.26		ug/Kg		103	58 - 160
Benzene	25.0	23.78		ug/Kg		95	76 - 121
Bromoform	25.0	16.28		ug/Kg		65	57 - 140
Bromomethane	25.0	33.55		ug/Kg		134	10 - 171
2-Butanone (MEK)	50.0	41.33		ug/Kg		83	63 - 142
Carbon disulfide	25.0	25.58		ug/Kg		102	43 - 152
Carbon tetrachloride	25.0	20.86		ug/Kg		83	64 - 144
Chlorobenzene	25.0	22.17		ug/Kg		89	80 - 120
Chlorodibromomethane	25.0	19.55		ug/Kg		78	68 - 131
Chloroethane	25.0	26.63		ug/Kg		107	11 - 164
Chloroform	25.0	21.02		ug/Kg		84	78 - 120
Chloromethane	25.0	26.78		ug/Kg		107	41 - 142

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-594763/4
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	22.35		ug/Kg		89	78 - 124
cis-1,3-Dichloropropene	25.0	20.16		ug/Kg		81	70 - 133
Cyclohexane	25.0	26.41		ug/Kg		106	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	17.33		ug/Kg		69	52 - 133
1,2-Dichlorobenzene	25.0	21.36		ug/Kg		85	73 - 120
1,3-Dichlorobenzene	25.0	22.42		ug/Kg		90	73 - 120
1,4-Dichlorobenzene	25.0	21.73		ug/Kg		87	74 - 120
Dichlorobromomethane	25.0	19.79		ug/Kg		79	71 - 138
Dichlorodifluoromethane	25.0	25.88		ug/Kg		104	21 - 150
1,1-Dichloroethane	25.0	23.84		ug/Kg		95	74 - 121
1,2-Dichloroethane	25.0	19.81		ug/Kg		79	71 - 123
1,1-Dichloroethene	25.0	26.16		ug/Kg		105	68 - 141
1,2-Dichloropropane	25.0	24.40		ug/Kg		98	76 - 126
Ethylbenzene	25.0	23.27		ug/Kg		93	80 - 120
Ethylene Dibromide	25.0	20.83		ug/Kg		83	80 - 121
2-Hexanone	50.0	47.52		ug/Kg		95	65 - 142
Isopropylbenzene	25.0	24.12		ug/Kg		96	80 - 130
Methyl acetate	50.0	40.34		ug/Kg		81	60 - 133
Methylcyclohexane	25.0	24.99		ug/Kg		100	70 - 138
Methylene Chloride	25.0	24.67	J	ug/Kg		99	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	45.51		ug/Kg		91	62 - 142
Methyl tert-butyl ether	25.0	20.54		ug/Kg		82	70 - 130
m-Xylene & p-Xylene	25.0	22.57		ug/Kg		90	80 - 122
o-Xylene	25.0	22.09		ug/Kg		88	80 - 124
Styrene	25.0	22.51		ug/Kg		90	75 - 140
1,1,2,2-Tetrachloroethane	25.0	22.16		ug/Kg		89	66 - 129
Tetrachloroethene	25.0	23.14		ug/Kg		93	76 - 127
Toluene	25.0	23.57		ug/Kg		94	80 - 120
trans-1,2-Dichloroethene	25.0	23.35		ug/Kg		93	76 - 130
trans-1,3-Dichloropropene	25.0	21.65		ug/Kg		87	61 - 121
1,2,4-Trichlorobenzene	25.0	23.17		ug/Kg		93	58 - 132
1,1,1-Trichloroethane	25.0	21.59		ug/Kg		86	74 - 136
1,1,2-Trichloroethane	25.0	22.91		ug/Kg		92	79 - 120
Trichloroethene	25.0	21.69		ug/Kg		87	74 - 130
Trichlorofluoromethane	25.0	24.25		ug/Kg		97	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.28		ug/Kg		93	64 - 148
Vinyl chloride	25.0	27.28		ug/Kg		109	49 - 146
Xylenes, Total	50.0	44.66		ug/Kg		89	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 143*
Dibromofluoromethane (Surr)	*93*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*97*		*58 - 125*
Toluene-d8 (Surr)	*105*		*56 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-594331/1-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Acetophenone	ND		100	25.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Anthracene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Atrazine	ND		330	69.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Caprolactam	ND		330	69.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Carbazole	ND		100	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Chrysene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Di-n-butyl phthalate	46.96	J	150	24.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Fluorene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Isophorone	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594331/1-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Pentachlorophenol	ND		270	105	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Phenol	ND		100	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Pyrene	ND		40.0	16.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*62*		*34 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
2-Fluorophenol (Surr)	*67*		*20 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
Nitrobenzene-d5 (Surr)	*63*		*25 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
Phenol-d5 (Surr)	*67*		*26 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
Terphenyl-d14 (Surr)	*67*		*46 - 137*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
2,4,6-Tribromophenol (Surr)	*61*		*10 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*

Lab Sample ID: LCS 240-594331/2-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1005		ug/Kg		75	52 - 120
Acenaphthylene	1330	1023		ug/Kg		77	52 - 120
Acetophenone	1330	1025		ug/Kg		77	47 - 120
Anthracene	1330	1114		ug/Kg		84	64 - 120
Atrazine	2670	2433		ug/Kg		91	71 - 125
Benzaldehyde	2670	2078		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1136		ug/Kg		85	70 - 120
Benzo[a]pyrene	1330	1008		ug/Kg		76	63 - 125
Benzo[b]fluoranthene	1330	1139		ug/Kg		85	64 - 121
Benzo[g,h,i]perylene	1330	1108		ug/Kg		83	62 - 120
Benzo[k]fluoranthene	1330	1075		ug/Kg		81	63 - 128
1,1'-Biphenyl	1330	986.6		ug/Kg		74	50 - 120
Bis(2-chloroethoxy)methane	1330	1006		ug/Kg		75	50 - 120
Bis(2-chloroethyl)ether	1330	915.0		ug/Kg		69	42 - 120
bis (2-chloroisopropyl) ether	1330	995.6		ug/Kg		75	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1066		ug/Kg		80	63 - 133
4-Bromophenyl phenyl ether	1330	1119		ug/Kg		84	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594331/2-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butyl benzyl phthalate	1330	1077		ug/Kg		81	66 - 127
Caprolactam	2670	2152		ug/Kg		81	67 - 120
Carbazole	1330	1179		ug/Kg		88	61 - 129
4-Chloroaniline	1330	596.5		ug/Kg		45	29 - 120
4-Chloro-3-methylphenol	1330	1117		ug/Kg		84	51 - 120
2-Chloronaphthalene	1330	982.5		ug/Kg		74	51 - 120
2-Chlorophenol	1330	1028		ug/Kg		77	47 - 120
4-Chlorophenyl phenyl ether	1330	1020		ug/Kg		76	59 - 120
Chrysene	1330	1047		ug/Kg		79	67 - 120
Dibenz(a,h)anthracene	1330	1031		ug/Kg		77	62 - 120
Dibenzofuran	1330	977.7		ug/Kg		73	55 - 120
3,3'-Dichlorobenzidine	2670	1863		ug/Kg		70	27 - 199
2,4-Dichlorophenol	1330	1007		ug/Kg		76	50 - 120
Diethyl phthalate	1330	1119		ug/Kg		84	61 - 120
2,4-Dimethylphenol	1330	859.9		ug/Kg		64	24 - 120
Dimethyl phthalate	1330	1075		ug/Kg		81	64 - 120
Di-n-butyl phthalate	1330	1108		ug/Kg		83	70 - 129
4,6-Dinitro-2-methylphenol	2670	912.8		ug/Kg		34	10 - 120
2,4-Dinitrophenol	2670	548.9		ug/Kg		21	10 - 120
2,4-Dinitrotoluene	1330	1039		ug/Kg		78	64 - 120
2,6-Dinitrotoluene	1330	1055		ug/Kg		79	62 - 120
Di-n-octyl phthalate	1330	1052		ug/Kg		79	64 - 129
Fluoranthene	1330	1101		ug/Kg		83	71 - 124
Fluorene	1330	1045		ug/Kg		78	58 - 120
Hexachlorobenzene	1330	1050		ug/Kg		79	59 - 120
Hexachlorobutadiene	1330	986.7		ug/Kg		74	45 - 120
Hexachlorocyclopentadiene	1330	674.0		ug/Kg		51	10 - 120
Hexachloroethane	1330	959.7		ug/Kg		72	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1047		ug/Kg		78	65 - 122
Isophorone	1330	1057		ug/Kg		79	50 - 120
2-Methylnaphthalene	1330	1002		ug/Kg		75	38 - 120
2-Methylphenol	1330	1049		ug/Kg		79	45 - 120
3 & 4 Methylphenol	1330	1021		ug/Kg		77	49 - 120
Naphthalene	1330	941.5		ug/Kg		71	34 - 120
2-Nitroaniline	1330	1125		ug/Kg		84	57 - 120
3-Nitroaniline	1330	816.5		ug/Kg		61	41 - 120
4-Nitroaniline	1330	1049		ug/Kg		79	48 - 128
Nitrobenzene	1330	1071		ug/Kg		80	48 - 120
2-Nitrophenol	1330	985.7		ug/Kg		74	51 - 120
4-Nitrophenol	2670	2241		ug/Kg		84	43 - 120
N-Nitrosodi-n-propylamine	1330	1147		ug/Kg		86	48 - 120
N-Nitrosodiphenylamine	1330	1065		ug/Kg		80	64 - 120
Pentachlorophenol	2670	2019		ug/Kg		76	10 - 120
Phenanthrene	1330	1018		ug/Kg		76	60 - 120
Phenol	1330	1021		ug/Kg		77	48 - 120
Pyrene	1330	1074		ug/Kg		81	67 - 120
2,4,5-Trichlorophenol	1330	1063		ug/Kg		80	50 - 120
2,4,6-Trichlorophenol	1330	1045		ug/Kg		78	50 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594331/2-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594331

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*73*		*34 - 120*
2-Fluorophenol (Surr)	*79*		*20 - 120*
Nitrobenzene-d5 (Surr)	*80*		*25 - 120*
Phenol-d5 (Surr)	*81*		*26 - 120*
Terphenyl-d14 (Surr)	*81*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*84*		*10 - 120*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-405656/1-A
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.48	7.11	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Diesel	ND		9.48	3.78	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Waste Oil	ND		9.48	1.93	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Total Extractable Hydrocarbons	6.914	J Z	14.2	3.78	mg/Kg		11/10/23 13:25	11/16/23 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*12 - 126*	*11/10/23 13:25*	*11/16/23 15:48*	*1*

Lab Sample ID: LCS 310-405656/2-A
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405656

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel			131	104.0		mg/Kg		79	34 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*89*		*12 - 126*

Lab Sample ID: 240-195063-1 MS
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: SB-1(0-3)
Prep Type: Total/NA
Prep Batch: 405656

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel	ND		158	100.2		mg/Kg	☼	63	12 - 147		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*66*		*12 - 126*

Lab Sample ID: 240-195063-1 MSD
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: SB-1(0-3)
Prep Type: Total/NA
Prep Batch: 405656

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel	ND		157	90.19		mg/Kg	☼	58	12 - 147	11	40

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	55		12 - 126

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-594218/1-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594218

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Antimony	ND		2.00	0.359	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Arsenic	ND		1.50	0.316	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Barium	ND		20.0	0.362	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Calcium	ND		500	36.5	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Chromium	ND		1.00	0.343	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Copper	ND		2.50	0.236	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Iron	ND		20.0	6.94	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Lead	ND		1.00	0.282	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Magnesium	ND		500	15.3	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Manganese	ND		1.50	0.259	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Nickel	ND		4.00	0.496	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Potassium	ND		500	35.8	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Selenium	ND		2.00	0.469	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Silver	ND		1.00	0.0810	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Sodium	ND		500	142	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Thallium	ND	^+	2.00	0.399	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Vanadium	ND		5.00	0.822	mg/Kg		11/10/23 15:00	11/13/23 14:23	1
Zinc	ND		5.00	1.37	mg/Kg		11/10/23 15:00	11/13/23 14:23	1

Lab Sample ID: LCS 240-594218/2-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	972.6		mg/Kg		97	80 - 120
Antimony	100	100.5		mg/Kg		101	80 - 120
Arsenic	200	199.9		mg/Kg		100	80 - 120
Barium	200	193.6		mg/Kg		97	80 - 120
Beryllium	100	98.02		mg/Kg		98	80 - 120
Cadmium	100	97.67		mg/Kg		98	80 - 120
Calcium	5000	4799		mg/Kg		96	80 - 120
Chromium	100	95.91		mg/Kg		96	80 - 120
Cobalt	100	97.28		mg/Kg		97	80 - 120
Copper	100	95.93		mg/Kg		96	80 - 120
Iron	1000	972.7		mg/Kg		97	80 - 120
Lead	100	92.74		mg/Kg		93	80 - 120
Magnesium	5000	4819		mg/Kg		96	80 - 120
Manganese	100	97.36		mg/Kg		97	80 - 120
Nickel	100	97.87		mg/Kg		98	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-594218/2-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	5000	4734		mg/Kg		95	80 - 120
Selenium	200	200.7		mg/Kg		100	80 - 120
Silver	10.0	9.934		mg/Kg		99	80 - 120
Sodium	5000	4763		mg/Kg		95	80 - 120
Thallium	200	208.3	^+	mg/Kg		104	80 - 120
Vanadium	100	98.15		mg/Kg		98	80 - 120
Zinc	100	98.22		mg/Kg		98	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-594221/1-A
Matrix: Solid
Analysis Batch: 594496

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594221

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/10/23 15:00	11/13/23 17:33	1

Lab Sample ID: LCS 240-594221/2-A
Matrix: Solid
Analysis Batch: 594496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594221

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.9195		mg/Kg		110	80 - 120

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

GC/MS VOA

Analysis Batch: 594617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	8260D	594618
240-195063-2	SB-1(33-35)	Total/NA	Solid	8260D	594618
240-195063-3	SB-2(0-3)	Total/NA	Solid	8260D	594618
240-195063-4	SB-2(33-35)	Total/NA	Solid	8260D	594618
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	8260D	594618
240-195063-6	SB-3(0-3)	Total/NA	Solid	8260D	594618
MB 240-594617/6	Method Blank	Total/NA	Solid	8260D	
LCS 240-594617/4	Lab Control Sample	Total/NA	Solid	8260D	

Prep Batch: 594618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	5035	
240-195063-2	SB-1(33-35)	Total/NA	Solid	5035	
240-195063-3	SB-2(0-3)	Total/NA	Solid	5035	
240-195063-4	SB-2(33-35)	Total/NA	Solid	5035	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	5035	
240-195063-6	SB-3(0-3)	Total/NA	Solid	5035	
240-195063-7	SB-3(33-35)	Total/NA	Solid	5035	
240-195063-8	SB-4(0-3)	Total/NA	Solid	5035	
240-195063-9	SB-4(33-35)	Total/NA	Solid	5035	

Analysis Batch: 594763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-7	SB-3(33-35)	Total/NA	Solid	8260D	594618
240-195063-8	SB-4(0-3)	Total/NA	Solid	8260D	594618
240-195063-9	SB-4(33-35)	Total/NA	Solid	8260D	594618
MB 240-594763/7	Method Blank	Total/NA	Solid	8260D	
LCS 240-594763/4	Lab Control Sample	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 594331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	3546	
240-195063-2	SB-1(33-35)	Total/NA	Solid	3546	
240-195063-3	SB-2(0-3)	Total/NA	Solid	3546	
240-195063-4	SB-2(33-35)	Total/NA	Solid	3546	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	3546	
240-195063-6	SB-3(0-3)	Total/NA	Solid	3546	
240-195063-7	SB-3(33-35)	Total/NA	Solid	3546	
240-195063-8	SB-4(0-3)	Total/NA	Solid	3546	
240-195063-9	SB-4(33-35)	Total/NA	Solid	3546	
MB 240-594331/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-594331/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 594465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	8270E	594331
240-195063-2	SB-1(33-35)	Total/NA	Solid	8270E	594331
240-195063-3	SB-2(0-3)	Total/NA	Solid	8270E	594331
240-195063-4	SB-2(33-35)	Total/NA	Solid	8270E	594331

GC/MS Semi VOA (Continued)

Analysis Batch: 594465 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	8270E	594331
240-195063-7	SB-3(33-35)	Total/NA	Solid	8270E	594331
MB 240-594331/1-A	Method Blank	Total/NA	Solid	8270E	594331
LCS 240-594331/2-A	Lab Control Sample	Total/NA	Solid	8270E	594331

Analysis Batch: 594628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-6	SB-3(0-3)	Total/NA	Solid	8270E	594331
240-195063-8	SB-4(0-3)	Total/NA	Solid	8270E	594331
240-195063-9	SB-4(33-35)	Total/NA	Solid	8270E	594331

GC Semi VOA

Prep Batch: 405656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	3546	
240-195063-2	SB-1(33-35)	Total/NA	Solid	3546	
240-195063-3	SB-2(0-3)	Total/NA	Solid	3546	
240-195063-4	SB-2(33-35)	Total/NA	Solid	3546	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	3546	
240-195063-6	SB-3(0-3)	Total/NA	Solid	3546	
240-195063-7	SB-3(33-35)	Total/NA	Solid	3546	
240-195063-8	SB-4(0-3)	Total/NA	Solid	3546	
240-195063-9	SB-4(33-35)	Total/NA	Solid	3546	
MB 310-405656/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-405656/2-A	Lab Control Sample	Total/NA	Solid	3546	
240-195063-1 MS	SB-1(0-3)	Total/NA	Solid	3546	
240-195063-1 MSD	SB-1(0-3)	Total/NA	Solid	3546	

Analysis Batch: 406178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	OA-2	405656
240-195063-2	SB-1(33-35)	Total/NA	Solid	OA-2	405656
240-195063-3	SB-2(0-3)	Total/NA	Solid	OA-2	405656
240-195063-4	SB-2(33-35)	Total/NA	Solid	OA-2	405656
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	OA-2	405656
240-195063-6	SB-3(0-3)	Total/NA	Solid	OA-2	405656
240-195063-7	SB-3(33-35)	Total/NA	Solid	OA-2	405656
240-195063-8	SB-4(0-3)	Total/NA	Solid	OA-2	405656
240-195063-9	SB-4(33-35)	Total/NA	Solid	OA-2	405656
MB 310-405656/1-A	Method Blank	Total/NA	Solid	OA-2	405656
LCS 310-405656/2-A	Lab Control Sample	Total/NA	Solid	OA-2	405656
240-195063-1 MS	SB-1(0-3)	Total/NA	Solid	OA-2	405656
240-195063-1 MSD	SB-1(0-3)	Total/NA	Solid	OA-2	405656

Metals

Prep Batch: 594218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	3050B	
240-195063-2	SB-1(33-35)	Total/NA	Solid	3050B	
240-195063-3	SB-2(0-3)	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 594218 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-4	SB-2(33-35)	Total/NA	Solid	3050B	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	3050B	
240-195063-6	SB-3(0-3)	Total/NA	Solid	3050B	
240-195063-7	SB-3(33-35)	Total/NA	Solid	3050B	
240-195063-8	SB-4(0-3)	Total/NA	Solid	3050B	
240-195063-9	SB-4(33-35)	Total/NA	Solid	3050B	
MB 240-594218/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-594218/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 594221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	7471B	
240-195063-2	SB-1(33-35)	Total/NA	Solid	7471B	
240-195063-3	SB-2(0-3)	Total/NA	Solid	7471B	
240-195063-4	SB-2(33-35)	Total/NA	Solid	7471B	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	7471B	
240-195063-6	SB-3(0-3)	Total/NA	Solid	7471B	
240-195063-7	SB-3(33-35)	Total/NA	Solid	7471B	
240-195063-8	SB-4(0-3)	Total/NA	Solid	7471B	
240-195063-9	SB-4(33-35)	Total/NA	Solid	7471B	
MB 240-594221/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-594221/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 594427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	6010D	594218
240-195063-2	SB-1(33-35)	Total/NA	Solid	6010D	594218
240-195063-3	SB-2(0-3)	Total/NA	Solid	6010D	594218
240-195063-4	SB-2(33-35)	Total/NA	Solid	6010D	594218
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	6010D	594218
240-195063-6	SB-3(0-3)	Total/NA	Solid	6010D	594218
240-195063-7	SB-3(33-35)	Total/NA	Solid	6010D	594218
240-195063-8	SB-4(0-3)	Total/NA	Solid	6010D	594218
240-195063-9	SB-4(33-35)	Total/NA	Solid	6010D	594218
MB 240-594218/1-A	Method Blank	Total/NA	Solid	6010D	594218
LCS 240-594218/2-A	Lab Control Sample	Total/NA	Solid	6010D	594218

Analysis Batch: 594496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	7471B	594221
240-195063-2	SB-1(33-35)	Total/NA	Solid	7471B	594221
240-195063-3	SB-2(0-3)	Total/NA	Solid	7471B	594221
240-195063-4	SB-2(33-35)	Total/NA	Solid	7471B	594221
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	7471B	594221
240-195063-6	SB-3(0-3)	Total/NA	Solid	7471B	594221
240-195063-7	SB-3(33-35)	Total/NA	Solid	7471B	594221
240-195063-8	SB-4(0-3)	Total/NA	Solid	7471B	594221
240-195063-9	SB-4(33-35)	Total/NA	Solid	7471B	594221
MB 240-594221/1-A	Method Blank	Total/NA	Solid	7471B	594221
LCS 240-594221/2-A	Lab Control Sample	Total/NA	Solid	7471B	594221

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Metals

Analysis Batch: 594619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	6010D	594218

Analysis Batch: 594736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-3	SB-2(0-3)	Total/NA	Solid	6010D	594218

General Chemistry

Analysis Batch: 594271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195063-1	SB-1(0-3)	Total/NA	Solid	Moisture	
240-195063-2	SB-1(33-35)	Total/NA	Solid	Moisture	
240-195063-3	SB-2(0-3)	Total/NA	Solid	Moisture	
240-195063-4	SB-2(33-35)	Total/NA	Solid	Moisture	
240-195063-5	SB-2(33-35) DUP	Total/NA	Solid	Moisture	
240-195063-6	SB-3(0-3)	Total/NA	Solid	Moisture	
240-195063-7	SB-3(33-35)	Total/NA	Solid	Moisture	
240-195063-8	SB-4(0-3)	Total/NA	Solid	Moisture	
240-195063-9	SB-4(33-35)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-1(0-3)
Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-1(0-3)
Date Collected: 11/07/23 10:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-1
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 04:49
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 17:58
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 16:48
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 15:41
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		2	594619	KLC	EET CLE	11/14/23 16:50
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:10

Client Sample ID: SB-1(33-35)
Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-1(33-35)
Date Collected: 11/07/23 10:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-2
Matrix: Solid
Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 05:13
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 18:22
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 17:03
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 15:46
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:12

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(0-3)
Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-2(0-3)
Date Collected: 11/07/23 11:45
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-3
Matrix: Solid
Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 05:37
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 18:45
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 17:18
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 15:50
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		5	594736	KLC	EET CLE	11/15/23 15:14
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:14

Client Sample ID: SB-2(33-35)
Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-2(33-35)
Date Collected: 11/07/23 13:00
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-4
Matrix: Solid
Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 06:01
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 19:09
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 17:34
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 15:55
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:16

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-2(33-35) DUP
Lab Sample ID: 240-195063-5
Date Collected: 11/07/23 00:00
Matrix: Solid
Date Received: 11/09/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-2(33-35) DUP
Lab Sample ID: 240-195063-5
Date Collected: 11/07/23 00:00
Matrix: Solid
Date Received: 11/09/23 09:50
Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 06:25
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 19:32
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 17:49
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 16:07
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:18

Client Sample ID: SB-3(0-3)
Lab Sample ID: 240-195063-6
Date Collected: 11/07/23 14:00
Matrix: Solid
Date Received: 11/09/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-3(0-3)
Lab Sample ID: 240-195063-6
Date Collected: 11/07/23 14:00
Matrix: Solid
Date Received: 11/09/23 09:50
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594617	CS	EET CLE	11/15/23 06:49
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 15:10
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 18:04
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 16:12
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:20

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-3(33-35)
Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 17:11

Client Sample ID: SB-3(33-35)
Date Collected: 11/07/23 15:15
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-7
Matrix: Solid
Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 19:14
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594465	LKG	EET CLE	11/14/23 19:56
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 18:19
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 16:16
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:22

Client Sample ID: SB-4(0-3)
Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 17:11

Client Sample ID: SB-4(0-3)
Date Collected: 11/08/23 10:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-8
Matrix: Solid
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 20:50
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 15:34
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 18:34
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 16:21
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:25

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 17:11

Client Sample ID: SB-4(33-35)

Date Collected: 11/08/23 11:25
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195063-9
Matrix: Solid
Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 11:15
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 21:14
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 15:57
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 18:49
Total/NA	Prep	3050B			594218	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 16:25
Total/NA	Prep	7471B			594221	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 18:27

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195063-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D	5035	Solid	1,2,4-Trichlorobenzene
8260D	5035	Solid	Cyclohexane
8260D	5035	Solid	Methyl acetate
8260D	5035	Solid	Methylcyclohexane
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

2.3 / 2.5

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Client Information	Sampler: Macy La Masney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.2
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 2 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N		
SB-1 (0-3)	11/7/23	1000	G	Solid			X	X	X	X	X	X			
SB-1 (33-35)		1015		Solid											
SB-2 (0-3)		1145		Solid											
SB-2 (33-35)		1300		Solid											
SB-2 (33-35) DUP		1		Solid											
SB-3 (0-3)		1400		Solid											
SB-3 (33-35)		1515		Solid											
SB-4 (0-3)	11/8/23	1050		Solid											
SB-4 (33-35)	11/8/23	1125		Solid											
	ML 11/8/23			Solid											NO trip blanks provided.
				Solid											

240-195063 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Macy La Masney	Date/Time: 11/8/23 1600	Company: Tetra Tech	Received by: [signature]	Date/Time: 11-9-23 950	Company: EETX
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative **Login # :** _____
Barberton Facility

Client Tetra Tech Site Name _____ Cooler unpacked by: [illegible]
Cooler Received on 11-9-23 Opened on 11-9-23
FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____
Eurofins Cooler # EC Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN # 21 (CF +2.0 °C) Observed Cooler Temp. 2.3 °C Corrected Cooler Temp. 2.5 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by:

_____
_____
_____
_____

19. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: 11-9-23 1115 AM

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TestAmerica

0-434 MTW EXP 06/24

ORIGIN ID:CAKA (330) 966-9677
EMILY FISHER / MACY LA MASNEY
TETRA TECH EM INC.
415 OAK STREET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

TO LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203
(330) 312-0176
REF: S240-113665

RMA:

FedEx Express

RETURNS MON-SA
PRIORITY OVERNIGH

TRK# 6549 1095 7977

FedEx
TRK# 0221 6549 1095 7977

THU - 09 NOV AA
PRIORITY OVERNIGHT

NX CAKA

44203
OH-US
CLE

4982321 08Nov2023 MPZA 581G5/FO82/C088

eurofins | Environment Testing America

240-195063 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: TA Cleveland

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 11-10-23 | TIME 0940 | Received By: MY

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): | Corrected Temp (°C):

Sample Container Temperature

Container(s) used:	CONTAINER 1	CONTAINER 2
	Soil Jar 2oz →	→
Uncorrected Temp (°C):	1.8	4.1
Corrected Temp (°C):	1.8	4.1

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cleveland
180 S Van Buren Avenue
Barberton, OH 44203
Phone 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-176434 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne cisneros@et.eurofinsus com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa		Job #: 240-195063-1
Address: 3019 Venture Way, ,	Due Date Requested: 12/4/2023			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	OA2/3546_LVI OA2 Standard List	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
SB-1(0-3) (240-195063-1)	11/7/23	10:00 Central		Solid			X	1	
SB-1(33-35) (240-195063-2)	11/7/23	10:15 Central		Solid			X	1	
SB-2(0-3) (240-195063-3)	11/7/23	11 45 Central		Solid			X	1	
SB-2(33-35) (240-195063-4)	11/7/23	13:00 Central		Solid			X	1	
SB-3(0-3) (240-195063-6)	11/7/23	14:00 Central		Solid			X	1	
SB-4(0-3) (240-195063-8)	11/8/23	10.50 Central		Solid			X	1	
SB-4(33-35) (240-195063-9)	11/8/23	11:25 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
[signature]	11/9/23 1635	EETNC	[signature]	11-10-23 940	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Eurofins Cleveland
180 S Van Buren Avenue
Barberton, OH 44203
Phone 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-176435 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne cisneros@et.eurofinsus com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa		Job #: 240-195063-1
Address: 3019 Venture Way, ,	Due Date Requested: 12/4/2023			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	OA2/3546_LVI OA2 Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SB-2(33-35) DUP (240-195063-5)	11/7/23	Central		Solid			X	1	
SB-3(33-35) (240-195063-7)	11/7/23	15 15 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
[signature]	11923 1635	EETNC	[signature]	11-10-23 940	
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 240-195063-1

Login Number: 195063
List Number: 2
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls
List Creation: 11/10/23 11:48 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/20/2023 10:12:06 AM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195065-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
11/20/2023 10:12:06 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Z	The chromatographic response does not resemble a typical fuel pattern.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Job ID: 240-195065-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195065-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/9/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 240-594763 recovered above the upper control limit for Bromomethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594628 recovered above the upper control limit for Atrazine, Hexachlorocyclopentadiene, 2-Nitroaniline, 4-Nitroaniline, 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-5 (0-3) (240-195065-1), SB-5 (33-35) (240-195065-2), SB-6 (0-3) (240-195065-3), SB-6 (33-35) (240-195065-4) and SB-7 (0-3) (240-195065-5).

Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: SB-6 (33-35) (240-195065-4). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594667 recovered above the upper control limit for 2-Nitrophenol, Atrazine and Dibenz(a,h)anthracene. The sample(s) associated with this CCV were non-detect for the affected analytes; therefore, the data has been reported. The associated sample is impacted: SB-7 (33-35) (240-195065-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method OA2: The method blank for preparation batch 310-405656 and analytical batch 310-406178 contained Total Extractable Hydrocarbons above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6010D: The continuing calibration verification (CCV) associated with batch 240-594427 recovered above the upper control limit for thallium. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-5 (0-3) (240-195065-1), SB-5 (33-35) (240-195065-2), SB-6 (0-3) (240-195065-3),

Job ID: 240-195065-1 (Continued)

Laboratory: Eurofins Cleveland (Continued)

SB-6 (33-35) (240-195065-4), SB-7 (0-3) (240-195065-5) and SB-7 (33-35) (240-195065-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	EET CF
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CF
3546	Microwave Extraction	SW846	EET CLE
5035	Closed System Purge and Trap	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency
Iowa DNR = Iowa Department of Natural Resources
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195065-1	SB-5 (0-3)	Solid	11/08/23 12:30	11/09/23 09:50
240-195065-2	SB-5 (33-35)	Solid	11/08/23 12:50	11/09/23 09:50
240-195065-3	SB-6 (0-3)	Solid	11/08/23 13:30	11/09/23 09:50
240-195065-4	SB-6 (33-35)	Solid	11/08/23 13:50	11/09/23 09:50
240-195065-5	SB-7 (0-3)	Solid	11/08/23 14:40	11/09/23 09:50
240-195065-6	SB-7 (33-35)	Solid	11/08/23 15:05	11/09/23 09:50

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3) — Lab Sample ID: 240-195065-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	67.2	J B	186	29.8	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	7.49	J B Z	17.3	4.61	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	15200		23.7	6.32	mg/Kg	1	☼	6010D	Total/NA
Arsenic	11.0		1.78	0.375	mg/Kg	1	☼	6010D	Total/NA
Barium	136		23.7	0.429	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.607		0.593	0.0640	mg/Kg	1	☼	6010D	Total/NA
Calcium	2120		593	43.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	19.9		1.19	0.407	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.18		1.19	0.0877	mg/Kg	1	☼	6010D	Total/NA
Copper	21.9		2.96	0.280	mg/Kg	1	☼	6010D	Total/NA
Iron	22600		23.7	8.23	mg/Kg	1	☼	6010D	Total/NA
Lead	13.5		1.19	0.334	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3530		593	18.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	150		1.78	0.307	mg/Kg	1	☼	6010D	Total/NA
Nickel	19.4		4.74	0.588	mg/Kg	1	☼	6010D	Total/NA
Potassium	777		593	42.4	mg/Kg	1	☼	6010D	Total/NA
Vanadium	34.1		5.93	0.974	mg/Kg	1	☼	6010D	Total/NA
Zinc	69.3		5.93	1.62	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0298	J	0.113	0.0203	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-5 (33-35) — Lab Sample ID: 240-195065-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	54.3	J B	170	27.3	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	5.56	J B Z	16.3	4.34	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	5250		19.0	5.06	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.66		1.42	0.300	mg/Kg	1	☼	6010D	Total/NA
Barium	65.8		19.0	0.344	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.410	J	0.475	0.0513	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.209	J	0.475	0.0456	mg/Kg	1	☼	6010D	Total/NA
Calcium	24200		475	34.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	11.5		0.949	0.326	mg/Kg	1	☼	6010D	Total/NA
Cobalt	10.6		0.949	0.0702	mg/Kg	1	☼	6010D	Total/NA
Copper	10.6		2.37	0.224	mg/Kg	1	☼	6010D	Total/NA
Iron	14200		19.0	6.59	mg/Kg	1	☼	6010D	Total/NA
Lead	6.68		0.949	0.268	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4710		475	14.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	392		1.42	0.246	mg/Kg	1	☼	6010D	Total/NA
Nickel	19.2		3.80	0.471	mg/Kg	1	☼	6010D	Total/NA
Potassium	825		475	33.9	mg/Kg	1	☼	6010D	Total/NA
Vanadium	19.8		4.75	0.780	mg/Kg	1	☼	6010D	Total/NA
Zinc	31.5		4.75	1.30	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0576	J	0.115	0.0207	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-6 (0-3) — Lab Sample ID: 240-195065-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	18.0	J	47.0	16.5	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	64.2	J B	176	28.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	15.3	J	47.0	15.3	ug/Kg	1	☼	8270E	Total/NA
Waste Oil	28.0		11.4	2.32	mg/Kg	1	☼	OA-2	Total/NA
Total Extractable Hydrocarbons	29.3	B	17.1	4.54	mg/Kg	1	☼	OA-2	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3) (Continued) — Lab Sample ID: 240-195065-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	14600		21.5	5.75	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.34		1.62	0.340	mg/Kg	1	☼	6010D	Total/NA
Barium	120		21.5	0.390	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.619		0.539	0.0582	mg/Kg	1	☼	6010D	Total/NA
Calcium	2070		539	39.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	18.5		1.08	0.370	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.93		1.08	0.0797	mg/Kg	1	☼	6010D	Total/NA
Copper	19.3		2.69	0.254	mg/Kg	1	☼	6010D	Total/NA
Iron	18400		21.5	7.48	mg/Kg	1	☼	6010D	Total/NA
Lead	9.21		1.08	0.304	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3640		539	16.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	157		1.62	0.279	mg/Kg	1	☼	6010D	Total/NA
Nickel	17.3		4.31	0.534	mg/Kg	1	☼	6010D	Total/NA
Potassium	791		539	38.5	mg/Kg	1	☼	6010D	Total/NA
Vanadium	24.7		5.39	0.886	mg/Kg	1	☼	6010D	Total/NA
Zinc	61.4		5.39	1.47	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0321	J	0.121	0.0217	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-6 (33-35) — Lab Sample ID: 240-195065-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	58.9	J B	173	27.7	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	6.16	J B Z	16.6	4.43	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	5450		20.6	5.49	mg/Kg	1	☼	6010D	Total/NA
Arsenic	4.61		1.54	0.325	mg/Kg	1	☼	6010D	Total/NA
Barium	48.5		20.6	0.373	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.420	J	0.515	0.0556	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.161	J	0.515	0.0494	mg/Kg	1	☼	6010D	Total/NA
Calcium	23300		515	37.5	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.6		1.03	0.353	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.09		1.03	0.0761	mg/Kg	1	☼	6010D	Total/NA
Copper	11.0		2.57	0.243	mg/Kg	1	☼	6010D	Total/NA
Iron	13900		20.6	7.14	mg/Kg	1	☼	6010D	Total/NA
Lead	5.78		1.03	0.290	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4880		515	15.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	190		1.54	0.267	mg/Kg	1	☼	6010D	Total/NA
Nickel	18.8		4.12	0.510	mg/Kg	1	☼	6010D	Total/NA
Potassium	860		515	36.8	mg/Kg	1	☼	6010D	Total/NA
Vanadium	20.6		5.15	0.846	mg/Kg	1	☼	6010D	Total/NA
Zinc	32.2		5.15	1.41	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0227	J	0.123	0.0222	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-7 (0-3) — Lab Sample ID: 240-195065-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	31.6	J	50.0	18.8	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	38.1	J	50.0	17.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	23.9	J	50.0	15.0	ug/Kg	1	☼	8270E	Total/NA
Chrysene	58.3		50.0	17.5	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	23.6	J	50.0	18.8	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	61.5	J B	188	30.0	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	25.5	J	50.0	15.0	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-7 (0-3) (Continued) — Lab Sample ID: 240-195065-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	63.5		50.0	16.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	39.8	J	50.0	20.0	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	18.7	B Z	18.4	4.89	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	15700		21.8	5.80	mg/Kg	1	☼	6010D	Total/NA
Arsenic	8.78		1.63	0.344	mg/Kg	1	☼	6010D	Total/NA
Barium	156		21.8	0.394	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.964		0.544	0.0587	mg/Kg	1	☼	6010D	Total/NA
Calcium	2860		544	39.7	mg/Kg	1	☼	6010D	Total/NA
Chromium	19.0		1.09	0.373	mg/Kg	1	☼	6010D	Total/NA
Cobalt	4.29		1.09	0.0805	mg/Kg	1	☼	6010D	Total/NA
Copper	20.2		2.72	0.257	mg/Kg	1	☼	6010D	Total/NA
Iron	21400		21.8	7.55	mg/Kg	1	☼	6010D	Total/NA
Lead	8.04		1.09	0.307	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3710		544	16.6	mg/Kg	1	☼	6010D	Total/NA
Manganese	138		1.63	0.282	mg/Kg	1	☼	6010D	Total/NA
Nickel	23.3		4.35	0.540	mg/Kg	1	☼	6010D	Total/NA
Potassium	851		544	38.9	mg/Kg	1	☼	6010D	Total/NA
Vanadium	31.0		5.44	0.894	mg/Kg	1	☼	6010D	Total/NA
Zinc	77.9		5.44	1.49	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0479	J	0.124	0.0223	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-7 (33-35) — Lab Sample ID: 240-195065-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Extractable Hydrocarbons	7.28	J B Z	16.9	4.51	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	4800		19.7	5.25	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.41		1.48	0.311	mg/Kg	1	☼	6010D	Total/NA
Barium	89.5		19.7	0.356	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.409	J	0.492	0.0532	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.101	J	0.492	0.0473	mg/Kg	1	☼	6010D	Total/NA
Calcium	2180		492	35.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.1		0.984	0.338	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.72		0.984	0.0728	mg/Kg	1	☼	6010D	Total/NA
Copper	9.96		2.46	0.232	mg/Kg	1	☼	6010D	Total/NA
Iron	14200		19.7	6.83	mg/Kg	1	☼	6010D	Total/NA
Lead	4.89		0.984	0.278	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1460		492	15.0	mg/Kg	1	☼	6010D	Total/NA
Manganese	259		1.48	0.255	mg/Kg	1	☼	6010D	Total/NA
Nickel	16.8		3.94	0.488	mg/Kg	1	☼	6010D	Total/NA
Potassium	713		492	35.2	mg/Kg	1	☼	6010D	Total/NA
Vanadium	17.5		4.92	0.809	mg/Kg	1	☼	6010D	Total/NA
Zinc	29.2		4.92	1.35	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3)

Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1

Matrix: Solid
Percent Solids: 81.9

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		21.2	17.8	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Benzene	ND		4.23	0.591	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Bromoform	ND		4.23	2.03	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Bromomethane	ND		4.23	3.51	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
2-Butanone (MEK)	ND		16.9	3.01	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Carbon disulfide	ND		4.23	0.985	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Carbon tetrachloride	ND		4.23	2.76	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Chlorobenzene	ND		4.23	0.776	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Chlorodibromomethane	ND		4.23	2.36	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Chloroethane	ND		4.23	2.32	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Chloroform	ND		4.23	0.667	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Chloromethane	ND		4.23	1.93	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
cis-1,2-Dichloroethene	ND		4.23	1.25	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
cis-1,3-Dichloropropene	ND		4.23	2.44	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Cyclohexane	ND		8.47	1.16	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,2-Dibromo-3-Chloropropane	ND		8.47	3.05	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,2-Dichlorobenzene	ND		4.23	0.942	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,3-Dichlorobenzene	ND		4.23	1.40	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,4-Dichlorobenzene	ND		4.23	0.747	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Dichlorobromomethane	ND		4.23	1.27	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Dichlorodifluoromethane	ND		4.23	1.92	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1-Dichloroethane	ND		4.23	1.20	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,2-Dichloroethane	ND		4.23	1.53	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1-Dichloroethene	ND		4.23	1.54	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,2-Dichloropropane	ND		4.23	0.721	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Ethylbenzene	ND		4.23	0.887	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Ethylene Dibromide	ND		4.23	0.652	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
2-Hexanone	ND		16.9	3.46	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Isopropylbenzene	ND		4.23	1.63	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Methyl acetate	ND		21.2	2.88	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Methylcyclohexane	ND		8.47	1.04	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Methylene Chloride	ND		21.2	10.2	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
4-Methyl-2-pentanone (MIBK)	ND		16.9	3.14	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Methyl tert-butyl ether	ND		4.23	1.68	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Styrene	ND		4.23	0.981	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1,2,2-Tetrachloroethane	ND		4.23	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Tetrachloroethene	ND		4.23	3.29	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Toluene	ND		4.23	0.655	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
trans-1,2-Dichloroethene	ND		4.23	1.20	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
trans-1,3-Dichloropropene	ND		4.23	3.14	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,2,4-Trichlorobenzene	ND		4.23	2.12	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1,1-Trichloroethane	ND		4.23	1.50	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1,2-Trichloroethane	ND		4.23	0.959	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Trichloroethene	ND		4.23	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Trichlorofluoromethane	ND		4.23	2.28	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.23	1.09	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Vinyl chloride	ND		4.23	1.50	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1
Xylenes, Total	ND		8.47	1.34	ug/Kg	☼	11/09/23 17:10	11/15/23 21:38	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3)

Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1

Matrix: Solid
Percent Solids: 81.9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*	*11/09/23 17:10*	*11/15/23 21:38*	*1*
Dibromofluoromethane (Surr)	*90*		*41 - 138*	*11/09/23 17:10*	*11/15/23 21:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*58 - 125*	*11/09/23 17:10*	*11/15/23 21:38*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/09/23 17:10*	*11/15/23 21:38*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Acenaphthylene	ND		49.6	18.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Acetophenone	ND		124	31.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Anthracene	ND		49.6	14.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Atrazine	ND		409	85.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzaldehyde	ND		409	69.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzo[a]anthracene	ND		49.6	18.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzo[a]pyrene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzo[b]fluoranthene	ND		49.6	14.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzo[g,h,i]perylene	ND		49.6	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Benzo[k]fluoranthene	ND		49.6	12.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
1,1'-Biphenyl	ND		124	34.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Bis(2-chloroethoxy)methane	ND		124	24.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Bis(2-chloroethyl)ether	ND		124	27.3	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
bis (2-chloroisopropyl) ether	ND		124	32.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Bis(2-ethylhexyl) phthalate	ND		186	69.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Bromophenyl phenyl ether	ND		124	39.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Butyl benzyl phthalate	ND		186	63.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Caprolactam	ND		409	85.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Carbazole	ND		124	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Chloroaniline	ND		186	19.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Chloro-3-methylphenol	ND		186	47.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Chloronaphthalene	ND		124	34.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Chlorophenol	ND		124	32.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Chlorophenyl phenyl ether	ND		124	34.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Chrysene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Dibenz(a,h)anthracene	ND		49.6	18.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Dibenzofuran	ND		124	36.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
3,3'-Dichlorobenzidine	ND		186	118	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4-Dichlorophenol	ND		186	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Diethyl phthalate	ND		186	53.3	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4-Dimethylphenol	ND		186	44.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Dimethyl phthalate	ND		186	49.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Di-n-butyl phthalate	**67.2**	**J B**	186	29.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4,6-Dinitro-2-methylphenol	ND		409	129	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4-Dinitrophenol	ND		409	212	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4-Dinitrotoluene	ND		248	28.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,6-Dinitrotoluene	ND		248	44.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Di-n-octyl phthalate	ND		186	62.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Fluoranthene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Fluorene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Hexachlorobenzene	ND		49.6	17.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Hexachlorobutadiene	ND		124	26.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3)

Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1

Matrix: Solid
Percent Solids: 81.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		409	48.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Hexachloroethane	ND		124	39.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Indeno[1,2,3-cd]pyrene	ND		49.6	14.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Isophorone	ND		124	32.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Methylnaphthalene	ND		49.6	16.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Methylphenol	ND		248	50.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
3 & 4 Methylphenol	ND		496	50.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Naphthalene	ND		49.6	16.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Nitroaniline	ND		248	47.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
3-Nitroaniline	ND		248	43.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Nitroaniline	ND		248	32.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Nitrobenzene	ND		124	27.3	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2-Nitrophenol	ND		124	43.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
4-Nitrophenol	ND		409	112	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
N-Nitrosodi-n-propylamine	ND		124	45.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
N-Nitrosodiphenylamine	ND		124	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Pentachlorophenol	ND		335	130	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Phenanthrene	ND		49.6	16.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Phenol	ND		124	47.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
Pyrene	ND		49.6	19.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4,5-Trichlorophenol	ND		186	40.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1
2,4,6-Trichlorophenol	ND		186	36.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*53*		*34 - 120*	*11/13/23 08:41*	*11/15/23 16:21*	*1*
2-Fluorophenol (Surr)	*57*		*20 - 120*	*11/13/23 08:41*	*11/15/23 16:21*	*1*
Nitrobenzene-d5 (Surr)	*56*		*25 - 120*	*11/13/23 08:41*	*11/15/23 16:21*	*1*
Phenol-d5 (Surr)	*55*		*26 - 120*	*11/13/23 08:41*	*11/15/23 16:21*	*1*
Terphenyl-d14 (Surr)	*56*		*46 - 137*	*11/13/23 08:41*	*11/15/23 16:21*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*10 - 120*	*11/13/23 08:41*	*11/15/23 16:21*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.5	8.66	mg/Kg	☼	11/10/23 13:25	11/16/23 19:04	1
Diesel	ND		11.5	4.61	mg/Kg	☼	11/10/23 13:25	11/16/23 19:04	1
Waste Oil	ND		11.5	2.36	mg/Kg	☼	11/10/23 13:25	11/16/23 19:04	1
Total Extractable Hydrocarbons	**7.49**	**J B Z**	17.3	4.61	mg/Kg	☼	11/10/23 13:25	11/16/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*81*		*12 - 126*	*11/10/23 13:25*	*11/16/23 19:04*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15200**		23.7	6.32	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Antimony	ND		2.37	0.426	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Arsenic	**11.0**		1.78	0.375	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Barium	**136**		23.7	0.429	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Beryllium	**0.607**		0.593	0.0640	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Cadmium	ND		0.593	0.0569	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Calcium	**2120**		593	43.2	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3)

Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1

Matrix: Solid
Percent Solids: 81.9

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	19.9		1.19	0.407	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Cobalt	7.18		1.19	0.0877	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Copper	21.9		2.96	0.280	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Iron	22600		23.7	8.23	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Lead	13.5		1.19	0.334	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Magnesium	3530		593	18.1	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Manganese	150		1.78	0.307	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Nickel	19.4		4.74	0.588	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Potassium	777		593	42.4	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Selenium	ND		2.37	0.556	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Silver	ND		1.19	0.0960	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Sodium	ND		593	168	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Thallium	ND	^+	2.37	0.473	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Vanadium	34.1		5.93	0.974	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1
Zinc	69.3		5.93	1.62	mg/Kg	☼	11/10/23 15:00	11/13/23 13:45	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0298	J	0.113	0.0203	mg/Kg	☼	11/10/23 15:00	11/13/23 17:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	81.9		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	18.1		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (33-35)

Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2

Matrix: Solid
Percent Solids: 88.5

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		16.6	13.9	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Benzene	ND		3.31	0.462	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Bromoform	ND		3.31	1.59	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Bromomethane	ND		3.31	2.75	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
2-Butanone (MEK)	ND		13.2	2.36	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Carbon disulfide	ND		3.31	0.770	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Carbon tetrachloride	ND		3.31	2.16	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Chlorobenzene	ND		3.31	0.607	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Chlorodibromomethane	ND		3.31	1.84	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Chloroethane	ND		3.31	1.82	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Chloroform	ND		3.31	0.522	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Chloromethane	ND		3.31	1.51	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
cis-1,2-Dichloroethene	ND		3.31	0.980	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
cis-1,3-Dichloropropene	ND		3.31	1.91	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Cyclohexane	ND		6.62	0.911	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,2-Dibromo-3-Chloropropane	ND		6.62	2.39	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,2-Dichlorobenzene	ND		3.31	0.737	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,3-Dichlorobenzene	ND		3.31	1.09	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,4-Dichlorobenzene	ND		3.31	0.584	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Dichlorobromomethane	ND		3.31	0.994	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Dichlorodifluoromethane	ND		3.31	1.50	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1-Dichloroethane	ND		3.31	0.938	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,2-Dichloroethane	ND		3.31	1.19	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1-Dichloroethene	ND		3.31	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,2-Dichloropropane	ND		3.31	0.564	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Ethylbenzene	ND		3.31	0.694	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Ethylene Dibromide	ND		3.31	0.510	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
2-Hexanone	ND		13.2	2.71	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Isopropylbenzene	ND		3.31	1.27	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Methyl acetate	ND		16.6	2.25	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Methylcyclohexane	ND		6.62	0.813	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Methylene Chloride	ND		16.6	7.95	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
4-Methyl-2-pentanone (MIBK)	ND		13.2	2.46	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Methyl tert-butyl ether	ND		3.31	1.31	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Styrene	ND		3.31	0.767	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1,2,2-Tetrachloroethane	ND		3.31	0.948	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Tetrachloroethene	ND		3.31	2.57	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Toluene	ND		3.31	0.512	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
trans-1,2-Dichloroethene	ND		3.31	0.941	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
trans-1,3-Dichloropropene	ND		3.31	2.46	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,2,4-Trichlorobenzene	ND		3.31	1.66	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1,1-Trichloroethane	ND		3.31	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1,2-Trichloroethane	ND		3.31	0.750	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Trichloroethene	ND		3.31	0.949	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Trichlorofluoromethane	ND		3.31	1.78	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.31	0.849	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Vinyl chloride	ND		3.31	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1
Xylenes, Total	ND		6.62	1.05	ug/Kg	☼	11/09/23 17:10	11/15/23 19:38	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (33-35)

Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2

Matrix: Solid
Percent Solids: 88.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 143*	*11/09/23 17:10*	*11/15/23 19:38*	*1*
Dibromofluoromethane (Surr)	*92*		*41 - 138*	*11/09/23 17:10*	*11/15/23 19:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*58 - 125*	*11/09/23 17:10*	*11/15/23 19:38*	*1*
Toluene-d8 (Surr)	*109*		*56 - 125*	*11/09/23 17:10*	*11/15/23 19:38*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Acenaphthylene	ND		45.5	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Acetophenone	ND		114	28.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Anthracene	ND		45.5	13.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Atrazine	ND		375	78.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzaldehyde	ND		375	63.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzo[a]anthracene	ND		45.5	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzo[a]pyrene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzo[b]fluoranthene	ND		45.5	13.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzo[g,h,i]perylene	ND		45.5	30.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Benzo[k]fluoranthene	ND		45.5	11.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
1,1'-Biphenyl	ND		114	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Bis(2-chloroethoxy)methane	ND		114	22.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Bis(2-chloroethyl)ether	ND		114	25.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
bis (2-chloroisopropyl) ether	ND		114	29.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Bis(2-ethylhexyl) phthalate	ND		170	63.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Bromophenyl phenyl ether	ND		114	36.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Butyl benzyl phthalate	ND		170	58.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Caprolactam	ND		375	78.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Carbazole	ND		114	30.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Chloroaniline	ND		170	18.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Chloro-3-methylphenol	ND		170	43.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Chloronaphthalene	ND		114	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Chlorophenol	ND		114	29.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Chlorophenyl phenyl ether	ND		114	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Chrysene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Dibenz(a,h)anthracene	ND		45.5	17.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Dibenzofuran	ND		114	33.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
3,3'-Dichlorobenzidine	ND		170	108	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4-Dichlorophenol	ND		170	30.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Diethyl phthalate	ND		170	48.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4-Dimethylphenol	ND		170	40.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Dimethyl phthalate	ND		170	45.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Di-n-butyl phthalate	**54.3**	**J B**	170	27.3	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4,6-Dinitro-2-methylphenol	ND		375	118	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4-Dinitrophenol	ND		375	194	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4-Dinitrotoluene	ND		227	26.1	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,6-Dinitrotoluene	ND		227	40.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Di-n-octyl phthalate	ND		170	56.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Fluoranthene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Fluorene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Hexachlorobenzene	ND		45.5	15.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Hexachlorobutadiene	ND		114	23.9	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (33-35)

Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2

Matrix: Solid
Percent Solids: 88.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		375	44.3	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Hexachloroethane	ND		114	36.4	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Indeno[1,2,3-cd]pyrene	ND		45.5	13.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Isophorone	ND		114	29.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Methylnaphthalene	ND		45.5	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Methylphenol	ND		227	46.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
3 & 4 Methylphenol	ND		455	46.6	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Naphthalene	ND		45.5	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Nitroaniline	ND		227	43.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
3-Nitroaniline	ND		227	39.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Nitroaniline	ND		227	29.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Nitrobenzene	ND		114	25.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2-Nitrophenol	ND		114	39.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
4-Nitrophenol	ND		375	102	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
N-Nitrosodi-n-propylamine	ND		114	42.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
N-Nitrosodiphenylamine	ND		114	30.7	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Pentachlorophenol	ND		307	119	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Phenanthrene	ND		45.5	14.8	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Phenol	ND		114	43.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
Pyrene	ND		45.5	18.2	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4,5-Trichlorophenol	ND		170	37.5	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1
2,4,6-Trichlorophenol	ND		170	33.0	ug/Kg	☼	11/13/23 08:41	11/15/23 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*50*		*34 - 120*	*11/13/23 08:41*	*11/15/23 16:45*	*1*
2-Fluorophenol (Surr)	*54*		*20 - 120*	*11/13/23 08:41*	*11/15/23 16:45*	*1*
Nitrobenzene-d5 (Surr)	*51*		*25 - 120*	*11/13/23 08:41*	*11/15/23 16:45*	*1*
Phenol-d5 (Surr)	*56*		*26 - 120*	*11/13/23 08:41*	*11/15/23 16:45*	*1*
Terphenyl-d14 (Surr)	*61*		*46 - 137*	*11/13/23 08:41*	*11/15/23 16:45*	*1*
2,4,6-Tribromophenol (Surr)	*44*		*10 - 120*	*11/13/23 08:41*	*11/15/23 16:45*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		10.9	8.16	mg/Kg	☼	11/10/23 13:25	11/16/23 19:20	1
Diesel	ND		10.9	4.34	mg/Kg	☼	11/10/23 13:25	11/16/23 19:20	1
Waste Oil	ND		10.9	2.22	mg/Kg	☼	11/10/23 13:25	11/16/23 19:20	1
Total Extractable Hydrocarbons	**5.56**	**J B Z**	16.3	4.34	mg/Kg	☼	11/10/23 13:25	11/16/23 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*12 - 126*	*11/10/23 13:25*	*11/16/23 19:20*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5250**		19.0	5.06	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Antimony	ND		1.90	0.341	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Arsenic	**6.66**		1.42	0.300	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Barium	**65.8**		19.0	0.344	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Beryllium	**0.410**	**J**	0.475	0.0513	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Cadmium	**0.209**	**J**	0.475	0.0456	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Calcium	**24200**		475	34.6	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (33-35)

Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2

Matrix: Solid
Percent Solids: 88.5

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	11.5		0.949	0.326	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Cobalt	10.6		0.949	0.0702	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Copper	10.6		2.37	0.224	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Iron	14200		19.0	6.59	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Lead	6.68		0.949	0.268	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Magnesium	4710		475	14.5	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Manganese	392		1.42	0.246	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Nickel	19.2		3.80	0.471	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Potassium	825		475	33.9	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Selenium	ND		1.90	0.445	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Silver	ND		0.949	0.0769	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Sodium	ND		475	135	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Thallium	ND	^+	1.90	0.379	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Vanadium	19.8		4.75	0.780	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1
Zinc	31.5		4.75	1.30	mg/Kg	☼	11/10/23 15:00	11/13/23 13:49	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0576	J	0.115	0.0207	mg/Kg	☼	11/10/23 15:00	11/13/23 17:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	88.5		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	11.5		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3)

Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3

Matrix: Solid
Percent Solids: 82.9

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20.5	17.2	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Benzene	ND		4.10	0.572	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Bromoform	ND		4.10	1.97	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Bromomethane	ND		4.10	3.40	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
2-Butanone (MEK)	ND		16.4	2.91	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Carbon disulfide	ND		4.10	0.953	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Carbon tetrachloride	ND		4.10	2.67	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Chlorobenzene	ND		4.10	0.751	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Chlorodibromomethane	ND		4.10	2.28	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Chloroethane	ND		4.10	2.25	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Chloroform	ND		4.10	0.646	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Chloromethane	ND		4.10	1.87	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
cis-1,2-Dichloroethene	ND		4.10	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
cis-1,3-Dichloropropene	ND		4.10	2.36	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Cyclohexane	ND		8.19	1.13	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,2-Dibromo-3-Chloropropane	ND		8.19	2.95	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,2-Dichlorobenzene	ND		4.10	0.911	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,3-Dichlorobenzene	ND		4.10	1.35	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,4-Dichlorobenzene	ND		4.10	0.723	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Dichlorobromomethane	ND		4.10	1.23	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Dichlorodifluoromethane	ND		4.10	1.85	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1-Dichloroethane	ND		4.10	1.16	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,2-Dichloroethane	ND		4.10	1.48	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1-Dichloroethene	ND		4.10	1.49	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,2-Dichloropropane	ND		4.10	0.697	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Ethylbenzene	ND		4.10	0.858	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Ethylene Dibromide	ND		4.10	0.631	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
2-Hexanone	ND		16.4	3.35	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Isopropylbenzene	ND		4.10	1.57	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Methyl acetate	ND		20.5	2.79	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Methylcyclohexane	ND		8.19	1.01	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Methylene Chloride	ND		20.5	9.83	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
4-Methyl-2-pentanone (MIBK)	ND		16.4	3.04	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Methyl tert-butyl ether	ND		4.10	1.62	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Styrene	ND		4.10	0.949	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1,2,2-Tetrachloroethane	ND		4.10	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Tetrachloroethene	ND		4.10	3.18	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Toluene	ND		4.10	0.633	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
trans-1,2-Dichloroethene	ND		4.10	1.16	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
trans-1,3-Dichloropropene	ND		4.10	3.04	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,2,4-Trichlorobenzene	ND		4.10	2.05	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1,1-Trichloroethane	ND		4.10	1.45	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1,2-Trichloroethane	ND		4.10	0.928	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Trichloroethene	ND		4.10	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Trichlorofluoromethane	ND		4.10	2.20	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.10	1.05	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Vinyl chloride	ND		4.10	1.45	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1
Xylenes, Total	ND		8.19	1.30	ug/Kg	☼	11/09/23 17:10	11/15/23 20:02	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3)

Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3

Matrix: Solid
Percent Solids: 82.9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*41 - 143*	*11/09/23 17:10*	*11/15/23 20:02*	*1*
Dibromofluoromethane (Surr)	*95*		*41 - 138*	*11/09/23 17:10*	*11/15/23 20:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*58 - 125*	*11/09/23 17:10*	*11/15/23 20:02*	*1*
Toluene-d8 (Surr)	*109*		*56 - 125*	*11/09/23 17:10*	*11/15/23 20:02*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Acenaphthylene	ND		47.0	17.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Acetophenone	ND		118	29.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Anthracene	ND		47.0	14.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Atrazine	ND		388	81.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzaldehyde	ND		388	65.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzo[a]anthracene	ND		47.0	17.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzo[a]pyrene	**18.0**	**J**	47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzo[b]fluoranthene	ND		47.0	14.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzo[g,h,i]perylene	ND		47.0	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Benzo[k]fluoranthene	ND		47.0	11.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
1,1'-Biphenyl	ND		118	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Bis(2-chloroethoxy)methane	ND		118	23.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Bis(2-chloroethyl)ether	ND		118	25.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
bis (2-chloroisopropyl) ether	ND		118	30.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Bis(2-ethylhexyl) phthalate	ND		176	65.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Bromophenyl phenyl ether	ND		118	37.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Butyl benzyl phthalate	ND		176	60.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Caprolactam	ND		388	81.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Carbazole	ND		118	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Chloroaniline	ND		176	18.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Chloro-3-methylphenol	ND		176	44.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Chloronaphthalene	ND		118	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Chlorophenol	ND		118	30.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Chlorophenyl phenyl ether	ND		118	32.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Chrysene	ND		47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Dibenz(a,h)anthracene	ND		47.0	17.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Dibenzofuran	ND		118	34.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
3,3'-Dichlorobenzidine	ND		176	112	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4-Dichlorophenol	ND		176	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Diethyl phthalate	ND		176	50.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4-Dimethylphenol	ND		176	42.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Dimethyl phthalate	ND		176	47.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Di-n-butyl phthalate	**64.2**	**J B**	176	28.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4,6-Dinitro-2-methylphenol	ND		388	122	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4-Dinitrophenol	ND		388	201	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4-Dinitrotoluene	ND		235	27.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,6-Dinitrotoluene	ND		235	42.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Di-n-octyl phthalate	ND		176	58.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Fluoranthene	ND		47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Fluorene	ND		47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Hexachlorobenzene	ND		47.0	16.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Hexachlorobutadiene	ND		118	24.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3)

Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3

Matrix: Solid
Percent Solids: 82.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		388	45.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Hexachloroethane	ND		118	37.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Indeno[1,2,3-cd]pyrene	ND		47.0	14.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Isophorone	ND		118	30.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Methylnaphthalene	ND		47.0	15.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Methylphenol	ND		235	48.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
3 & 4 Methylphenol	ND		470	48.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Naphthalene	ND		47.0	15.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Nitroaniline	ND		235	44.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
3-Nitroaniline	ND		235	41.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Nitroaniline	ND		235	30.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Nitrobenzene	ND		118	25.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2-Nitrophenol	ND		118	41.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
4-Nitrophenol	ND		388	106	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
N-Nitrosodi-n-propylamine	ND		118	43.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
N-Nitrosodiphenylamine	ND		118	31.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Pentachlorophenol	ND		318	123	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Phenanthrene	**15.3**	**J**	47.0	15.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Phenol	ND		118	44.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
Pyrene	ND		47.0	18.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4,5-Trichlorophenol	ND		176	38.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1
2,4,6-Trichlorophenol	ND		176	34.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*34 - 120*	*11/13/23 08:41*	*11/15/23 17:08*	*1*
2-Fluorophenol (Surr)	*65*		*20 - 120*	*11/13/23 08:41*	*11/15/23 17:08*	*1*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*	*11/13/23 08:41*	*11/15/23 17:08*	*1*
Phenol-d5 (Surr)	*68*		*26 - 120*	*11/13/23 08:41*	*11/15/23 17:08*	*1*
Terphenyl-d14 (Surr)	*68*		*46 - 137*	*11/13/23 08:41*	*11/15/23 17:08*	*1*
2,4,6-Tribromophenol (Surr)	*45*		*10 - 120*	*11/13/23 08:41*	*11/15/23 17:08*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.4	8.54	mg/Kg	☼	11/10/23 13:25	11/16/23 19:35	1
Diesel	ND		11.4	4.54	mg/Kg	☼	11/10/23 13:25	11/16/23 19:35	1
Waste Oil	**28.0**		11.4	2.32	mg/Kg	☼	11/10/23 13:25	11/16/23 19:35	1
Total Extractable Hydrocarbons	**29.3**	**B**	17.1	4.54	mg/Kg	☼	11/10/23 13:25	11/16/23 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*12 - 126*	*11/10/23 13:25*	*11/16/23 19:35*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**14600**		21.5	5.75	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Antimony	ND		2.15	0.387	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Arsenic	**5.34**		1.62	0.340	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Barium	**120**		21.5	0.390	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Beryllium	**0.619**		0.539	0.0582	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Cadmium	ND		0.539	0.0517	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Calcium	**2070**		539	39.3	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3)

Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3

Matrix: Solid
Percent Solids: 82.9

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	18.5		1.08	0.370	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Cobalt	7.93		1.08	0.0797	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Copper	19.3		2.69	0.254	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Iron	18400		21.5	7.48	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Lead	9.21		1.08	0.304	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Magnesium	3640		539	16.5	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Manganese	157		1.62	0.279	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Nickel	17.3		4.31	0.534	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Potassium	791		539	38.5	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Selenium	ND		2.15	0.505	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Silver	ND		1.08	0.0873	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Sodium	ND		539	153	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Thallium	ND	^+	2.15	0.430	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Vanadium	24.7		5.39	0.886	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1
Zinc	61.4		5.39	1.47	mg/Kg	☼	11/10/23 15:00	11/13/23 13:53	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0321	J	0.121	0.0217	mg/Kg	☼	11/10/23 15:00	11/13/23 17:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	82.9		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	17.1		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (33-35)

Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4

Matrix: Solid
Percent Solids: 88.3

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.7	14.9	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Benzene	ND		3.54	0.495	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Bromoform	ND		3.54	1.70	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Bromomethane	ND		3.54	2.94	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
2-Butanone (MEK)	ND		14.2	2.52	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Carbon disulfide	ND		3.54	0.824	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Carbon tetrachloride	ND		3.54	2.31	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Chlorobenzene	ND		3.54	0.649	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Chlorodibromomethane	ND		3.54	1.97	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Chloroethane	ND		3.54	1.94	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Chloroform	ND		3.54	0.559	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Chloromethane	ND		3.54	1.62	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
cis-1,2-Dichloroethene	ND		3.54	1.05	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
cis-1,3-Dichloropropene	ND		3.54	2.04	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Cyclohexane	ND		7.09	0.975	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,2-Dibromo-3-Chloropropane	ND		7.09	2.56	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,2-Dichlorobenzene	ND		3.54	0.788	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,3-Dichlorobenzene	ND		3.54	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,4-Dichlorobenzene	ND		3.54	0.625	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Dichlorobromomethane	ND		3.54	1.06	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Dichlorodifluoromethane	ND		3.54	1.60	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1-Dichloroethane	ND		3.54	1.00	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,2-Dichloroethane	ND		3.54	1.28	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1-Dichloroethene	ND		3.54	1.29	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,2-Dichloropropane	ND		3.54	0.603	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Ethylbenzene	ND		3.54	0.742	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Ethylene Dibromide	ND		3.54	0.546	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
2-Hexanone	ND		14.2	2.89	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Isopropylbenzene	ND		3.54	1.36	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Methyl acetate	ND		17.7	2.41	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Methylcyclohexane	ND		7.09	0.870	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Methylene Chloride	ND		17.7	8.51	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
4-Methyl-2-pentanone (MIBK)	ND		14.2	2.63	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Methyl tert-butyl ether	ND		3.54	1.40	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Styrene	ND		3.54	0.821	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1,2,2-Tetrachloroethane	ND		3.54	1.01	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Tetrachloroethene	ND		3.54	2.75	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Toluene	ND		3.54	0.548	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
trans-1,2-Dichloroethene	ND		3.54	1.01	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
trans-1,3-Dichloropropene	ND		3.54	2.63	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,2,4-Trichlorobenzene	ND		3.54	1.77	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1,1-Trichloroethane	ND		3.54	1.25	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1,2-Trichloroethane	ND		3.54	0.802	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Trichloroethene	ND		3.54	1.02	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Trichlorofluoromethane	ND		3.54	1.91	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.54	0.909	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Vinyl chloride	ND		3.54	1.25	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1
Xylenes, Total	ND		7.09	1.12	ug/Kg	☼	11/09/23 17:10	11/15/23 22:02	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (33-35)

Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4

Matrix: Solid
Percent Solids: 88.3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*	*11/09/23 17:10*	*11/15/23 22:02*	*1*
Dibromofluoromethane (Surr)	*87*		*41 - 138*	*11/09/23 17:10*	*11/15/23 22:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*58 - 125*	*11/09/23 17:10*	*11/15/23 22:02*	*1*
Toluene-d8 (Surr)	*106*		*56 - 125*	*11/09/23 17:10*	*11/15/23 22:02*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Acenaphthylene	ND		46.2	17.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Acetophenone	ND		116	28.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Anthracene	ND		46.2	13.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Atrazine	ND		381	79.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzaldehyde	ND		381	64.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzo[a]anthracene	ND		46.2	17.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzo[a]pyrene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzo[b]fluoranthene	ND		46.2	13.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzo[g,h,i]perylene	ND		46.2	31.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Benzo[k]fluoranthene	ND		46.2	11.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
1,1'-Biphenyl	ND		116	32.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Bis(2-chloroethoxy)methane	ND		116	23.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Bis(2-chloroethyl)ether	ND		116	25.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
bis (2-chloroisopropyl) ether	ND		116	30.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Bis(2-ethylhexyl) phthalate	ND		173	64.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Bromophenyl phenyl ether	ND		116	37.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Butyl benzyl phthalate	ND		173	58.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Caprolactam	ND		381	79.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Carbazole	ND		116	31.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Chloroaniline	ND		173	18.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Chloro-3-methylphenol	ND		173	43.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Chloronaphthalene	ND		116	32.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Chlorophenol	ND		116	30.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Chlorophenyl phenyl ether	ND		116	32.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Chrysene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Dibenz(a,h)anthracene	ND		46.2	17.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Dibenzofuran	ND		116	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
3,3'-Dichlorobenzidine	ND		173	110	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4-Dichlorophenol	ND		173	31.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Diethyl phthalate	ND		173	49.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4-Dimethylphenol	ND		173	41.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Dimethyl phthalate	ND		173	46.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Di-n-butyl phthalate	**58.9**	**J B**	173	27.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4,6-Dinitro-2-methylphenol	ND		381	120	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4-Dinitrophenol	ND		381	198	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4-Dinitrotoluene	ND		231	26.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,6-Dinitrotoluene	ND		231	41.6	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Di-n-octyl phthalate	ND		173	57.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Fluoranthene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Fluorene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Hexachlorobenzene	ND		46.2	16.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Hexachlorobutadiene	ND		116	24.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (33-35)

Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4

Matrix: Solid
Percent Solids: 88.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		381	45.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Hexachloroethane	ND		116	37.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Indeno[1,2,3-cd]pyrene	ND		46.2	13.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Isophorone	ND		116	30.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Methylnaphthalene	ND		46.2	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Methylphenol	ND		231	47.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
3 & 4 Methylphenol	ND		462	47.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Naphthalene	ND		46.2	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Nitroaniline	ND		231	43.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
3-Nitroaniline	ND		231	40.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Nitroaniline	ND		231	30.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Nitrobenzene	ND		116	25.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2-Nitrophenol	ND		116	40.4	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
4-Nitrophenol	ND		381	104	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
N-Nitrosodi-n-propylamine	ND		116	42.7	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
N-Nitrosodiphenylamine	ND		116	31.2	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Pentachlorophenol	ND		312	121	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Phenanthrene	ND		46.2	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Phenol	ND		116	43.9	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
Pyrene	ND		46.2	18.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4,5-Trichlorophenol	ND		173	38.1	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1
2,4,6-Trichlorophenol	ND		173	33.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*46*		*34 - 120*	*11/13/23 08:41*	*11/15/23 17:32*	*1*
2-Fluorophenol (Surr)	*49*		*20 - 120*	*11/13/23 08:41*	*11/15/23 17:32*	*1*
Nitrobenzene-d5 (Surr)	*48*		*25 - 120*	*11/13/23 08:41*	*11/15/23 17:32*	*1*
Phenol-d5 (Surr)	*48*		*26 - 120*	*11/13/23 08:41*	*11/15/23 17:32*	*1*
Terphenyl-d14 (Surr)	*44*	*S1-*	*46 - 137*	*11/13/23 08:41*	*11/15/23 17:32*	*1*
2,4,6-Tribromophenol (Surr)	*24*		*10 - 120*	*11/13/23 08:41*	*11/15/23 17:32*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.1	8.32	mg/Kg	☼	11/10/23 13:25	11/16/23 19:50	1
Diesel	ND		11.1	4.43	mg/Kg	☼	11/10/23 13:25	11/16/23 19:50	1
Waste Oil	ND		11.1	2.26	mg/Kg	☼	11/10/23 13:25	11/16/23 19:50	1
Total Extractable Hydrocarbons	**6.16**	**J B Z**	16.6	4.43	mg/Kg	☼	11/10/23 13:25	11/16/23 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*95*		*12 - 126*	*11/10/23 13:25*	*11/16/23 19:50*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5450**		20.6	5.49	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Antimony	ND		2.06	0.369	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Arsenic	**4.61**		1.54	0.325	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Barium	**48.5**		20.6	0.373	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Beryllium	**0.420**	**J**	0.515	0.0556	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Cadmium	**0.161**	**J**	0.515	0.0494	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Calcium	**23300**		515	37.5	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (33-35)

Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4

Matrix: Solid
Percent Solids: 88.3

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.6		1.03	0.353	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Cobalt	5.09		1.03	0.0761	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Copper	11.0		2.57	0.243	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Iron	13900		20.6	7.14	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Lead	5.78		1.03	0.290	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Magnesium	4880		515	15.7	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Manganese	190		1.54	0.267	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Nickel	18.8		4.12	0.510	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Potassium	860		515	36.8	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Selenium	ND		2.06	0.483	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Silver	ND		1.03	0.0833	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Sodium	ND		515	146	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Thallium	ND	^+	2.06	0.411	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Vanadium	20.6		5.15	0.846	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1
Zinc	32.2		5.15	1.41	mg/Kg	☼	11/10/23 15:00	11/13/23 13:58	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0227	J	0.123	0.0222	mg/Kg	☼	11/10/23 15:00	11/13/23 17:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	88.3		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	11.7		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (0-3)

Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5

Matrix: Solid
Percent Solids: 80.6

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		21.1	17.7	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Benzene	ND		4.21	0.588	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Bromoform	ND		4.21	2.02	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Bromomethane	ND		4.21	3.50	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
2-Butanone (MEK)	ND		16.9	3.00	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Carbon disulfide	ND		4.21	0.980	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Carbon tetrachloride	ND		4.21	2.74	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Chlorobenzene	ND		4.21	0.772	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Chlorodibromomethane	ND		4.21	2.34	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Chloroethane	ND		4.21	2.31	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Chloroform	ND		4.21	0.664	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Chloromethane	ND		4.21	1.92	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
cis-1,2-Dichloroethene	ND		4.21	1.25	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
cis-1,3-Dichloropropene	ND		4.21	2.43	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Cyclohexane	ND		8.43	1.16	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,2-Dibromo-3-Chloropropane	ND		8.43	3.04	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,2-Dichlorobenzene	ND		4.21	0.937	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,3-Dichlorobenzene	ND		4.21	1.39	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,4-Dichlorobenzene	ND		4.21	0.743	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Dichlorobromomethane	ND		4.21	1.26	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Dichlorodifluoromethane	ND		4.21	1.91	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1-Dichloroethane	ND		4.21	1.19	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,2-Dichloroethane	ND		4.21	1.52	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1-Dichloroethene	ND		4.21	1.53	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,2-Dichloropropane	ND		4.21	0.717	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Ethylbenzene	ND		4.21	0.882	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Ethylene Dibromide	ND		4.21	0.649	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
2-Hexanone	ND		16.9	3.44	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Isopropylbenzene	ND		4.21	1.62	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Methyl acetate	ND		21.1	2.87	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Methylcyclohexane	ND		8.43	1.03	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Methylene Chloride	ND		21.1	10.1	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
4-Methyl-2-pentanone (MIBK)	ND		16.9	3.13	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Methyl tert-butyl ether	ND		4.21	1.67	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Styrene	ND		4.21	0.976	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1,2,2-Tetrachloroethane	ND		4.21	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Tetrachloroethene	ND		4.21	3.27	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Toluene	ND		4.21	0.651	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
trans-1,2-Dichloroethene	ND		4.21	1.20	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
trans-1,3-Dichloropropene	ND		4.21	3.13	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,2,4-Trichlorobenzene	ND		4.21	2.11	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1,1-Trichloroethane	ND		4.21	1.49	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1,2-Trichloroethane	ND		4.21	0.954	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Trichloroethene	ND		4.21	1.21	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Trichlorofluoromethane	ND		4.21	2.27	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.21	1.08	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Vinyl chloride	ND		4.21	1.49	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1
Xylenes, Total	ND		8.43	1.34	ug/Kg	☼	11/09/23 17:10	11/15/23 22:26	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (0-3)

Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5

Matrix: Solid
Percent Solids: 80.6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*41 - 143*	*11/09/23 17:10*	*11/15/23 22:26*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*	*11/09/23 17:10*	*11/15/23 22:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*58 - 125*	*11/09/23 17:10*	*11/15/23 22:26*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/09/23 17:10*	*11/15/23 22:26*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Acenaphthylene	ND		50.0	18.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Acetophenone	ND		125	31.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Anthracene	ND		50.0	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Atrazine	ND		413	86.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzaldehyde	ND		413	70.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzo[a]anthracene	**31.6**	**J**	50.0	18.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzo[a]pyrene	**38.1**	**J**	50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzo[b]fluoranthene	**23.9**	**J**	50.0	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzo[g,h,i]perylene	ND		50.0	33.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Benzo[k]fluoranthene	ND		50.0	12.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
1,1'-Biphenyl	ND		125	35.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Bis(2-chloroethoxy)methane	ND		125	25.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Bis(2-chloroethyl)ether	ND		125	27.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
bis (2-chloroisopropyl) ether	ND		125	32.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Bis(2-ethylhexyl) phthalate	ND		188	70.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Bromophenyl phenyl ether	ND		125	40.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Butyl benzyl phthalate	ND		188	63.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Caprolactam	ND		413	86.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Carbazole	ND		125	33.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Chloroaniline	ND		188	20.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Chloro-3-methylphenol	ND		188	47.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Chloronaphthalene	ND		125	35.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Chlorophenol	ND		125	32.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Chlorophenyl phenyl ether	ND		125	35.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Chrysene	**58.3**		50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Dibenz(a,h)anthracene	**23.6**	**J**	50.0	18.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Dibenzofuran	ND		125	36.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
3,3'-Dichlorobenzidine	ND		188	119	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4-Dichlorophenol	ND		188	33.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Diethyl phthalate	ND		188	53.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4-Dimethylphenol	ND		188	45.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Dimethyl phthalate	ND	F1	188	50.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Di-n-butyl phthalate	**61.5**	**J B**	188	30.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4,6-Dinitro-2-methylphenol	ND		413	130	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4-Dinitrophenol	ND		413	214	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4-Dinitrotoluene	ND		250	28.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,6-Dinitrotoluene	ND		250	45.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Di-n-octyl phthalate	ND		188	62.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Fluoranthene	ND		50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Fluorene	ND		50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Hexachlorobenzene	ND		50.0	17.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Hexachlorobutadiene	ND		125	26.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (0-3)

Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5

Matrix: Solid
Percent Solids: 80.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		413	48.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Hexachloroethane	ND		125	40.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Indeno[1,2,3-cd]pyrene	**25.5**	**J**	50.0	15.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Isophorone	ND		125	32.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Methylnaphthalene	ND		50.0	16.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Methylphenol	ND		250	51.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
3 & 4 Methylphenol	ND		500	51.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Naphthalene	ND		50.0	16.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Nitroaniline	ND		250	47.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
3-Nitroaniline	ND		250	43.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Nitroaniline	ND		250	32.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Nitrobenzene	ND		125	27.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2-Nitrophenol	ND		125	43.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
4-Nitrophenol	ND		413	113	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
N-Nitrosodi-n-propylamine	ND		125	46.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
N-Nitrosodiphenylamine	ND		125	33.8	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Pentachlorophenol	ND		338	131	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Phenanthrene	**63.5**		50.0	16.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Phenol	ND		125	47.5	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
Pyrene	**39.8**	**J**	50.0	20.0	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4,5-Trichlorophenol	ND		188	41.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1
2,4,6-Trichlorophenol	ND		188	36.3	ug/Kg	☼	11/13/23 08:41	11/15/23 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*56*		*34 - 120*	*11/13/23 08:41*	*11/15/23 17:55*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 120*	*11/13/23 08:41*	*11/15/23 17:55*	*1*
Nitrobenzene-d5 (Surr)	*58*		*25 - 120*	*11/13/23 08:41*	*11/15/23 17:55*	*1*
Phenol-d5 (Surr)	*63*		*26 - 120*	*11/13/23 08:41*	*11/15/23 17:55*	*1*
Terphenyl-d14 (Surr)	*61*		*46 - 137*	*11/13/23 08:41*	*11/15/23 17:55*	*1*
2,4,6-Tribromophenol (Surr)	*10*		*10 - 120*	*11/13/23 08:41*	*11/15/23 17:55*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12.2	9.19	mg/Kg	☼	11/10/23 13:25	11/16/23 20:05	1
Diesel	ND		12.2	4.89	mg/Kg	☼	11/10/23 13:25	11/16/23 20:05	1
Waste Oil	ND		12.2	2.50	mg/Kg	☼	11/10/23 13:25	11/16/23 20:05	1
Total Extractable Hydrocarbons	**18.7**	**B Z**	18.4	4.89	mg/Kg	☼	11/10/23 13:25	11/16/23 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*75*		*12 - 126*	*11/10/23 13:25*	*11/16/23 20:05*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15700**		21.8	5.80	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Antimony	ND		2.18	0.391	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Arsenic	**8.78**		1.63	0.344	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Barium	**156**		21.8	0.394	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Beryllium	**0.964**		0.544	0.0587	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Cadmium	ND		0.544	0.0522	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Calcium	**2860**		544	39.7	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (0-3)

Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5

Matrix: Solid
Percent Solids: 80.6

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	19.0		1.09	0.373	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Cobalt	4.29		1.09	0.0805	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Copper	20.2		2.72	0.257	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Iron	21400		21.8	7.55	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Lead	8.04		1.09	0.307	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Magnesium	3710		544	16.6	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Manganese	138		1.63	0.282	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Nickel	23.3		4.35	0.540	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Potassium	851		544	38.9	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Selenium	ND		2.18	0.510	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Silver	ND		1.09	0.0881	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Sodium	ND		544	154	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Thallium	ND	^+	2.18	0.434	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Vanadium	31.0		5.44	0.894	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1
Zinc	77.9		5.44	1.49	mg/Kg	☼	11/10/23 15:00	11/13/23 14:02	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0479	J	0.124	0.0223	mg/Kg	☼	11/10/23 15:00	11/13/23 17:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	80.6		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	19.4		0.1	0.1	%			11/10/23 16:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (33-35)

Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6

Matrix: Solid
Percent Solids: 86.1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		18.4	15.5	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Benzene	ND		3.69	0.515	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Bromoform	ND		3.69	1.77	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Bromomethane	ND		3.69	3.06	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
2-Butanone (MEK)	ND		14.8	2.62	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Carbon disulfide	ND		3.69	0.858	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Carbon tetrachloride	ND		3.69	2.40	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Chlorobenzene	ND		3.69	0.676	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Chlorodibromomethane	ND		3.69	2.05	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Chloroethane	ND		3.69	2.02	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Chloroform	ND		3.69	0.581	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Chloromethane	ND		3.69	1.68	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
cis-1,2-Dichloroethene	ND		3.69	1.09	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
cis-1,3-Dichloropropene	ND		3.69	2.13	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Cyclohexane	ND		7.38	1.01	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,2-Dibromo-3-Chloropropane	ND		7.38	2.66	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,2-Dichlorobenzene	ND		3.69	0.821	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,3-Dichlorobenzene	ND		3.69	1.22	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,4-Dichlorobenzene	ND		3.69	0.651	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Dichlorobromomethane	ND		3.69	1.11	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Dichlorodifluoromethane	ND		3.69	1.67	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1-Dichloroethane	ND		3.69	1.04	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,2-Dichloroethane	ND		3.69	1.33	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1-Dichloroethene	ND		3.69	1.34	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,2-Dichloropropane	ND		3.69	0.628	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Ethylbenzene	ND		3.69	0.773	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Ethylene Dibromide	ND		3.69	0.568	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
2-Hexanone	ND		14.8	3.01	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Isopropylbenzene	ND		3.69	1.42	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Methyl acetate	ND		18.4	2.51	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Methylcyclohexane	ND		7.38	0.905	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Methylene Chloride	ND		18.4	8.85	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
4-Methyl-2-pentanone (MIBK)	ND		14.8	2.74	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Methyl tert-butyl ether	ND		3.69	1.46	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Styrene	ND		3.69	0.854	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1,2,2-Tetrachloroethane	ND		3.69	1.06	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Tetrachloroethene	ND		3.69	2.87	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Toluene	ND		3.69	0.570	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
trans-1,2-Dichloroethene	ND		3.69	1.05	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
trans-1,3-Dichloropropene	ND		3.69	2.74	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,2,4-Trichlorobenzene	ND		3.69	1.84	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1,1-Trichloroethane	ND		3.69	1.31	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1,2-Trichloroethane	ND		3.69	0.835	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Trichloroethene	ND		3.69	1.06	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Trichlorofluoromethane	ND		3.69	1.98	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.69	0.946	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Vinyl chloride	ND		3.69	1.31	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1
Xylenes, Total	ND		7.38	1.17	ug/Kg	☼	11/09/23 17:10	11/15/23 22:50	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (33-35)

Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6

Matrix: Solid
Percent Solids: 86.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*41 - 143*	*11/09/23 17:10*	*11/15/23 22:50*	*1*
Dibromofluoromethane (Surr)	*90*		*41 - 138*	*11/09/23 17:10*	*11/15/23 22:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*58 - 125*	*11/09/23 17:10*	*11/15/23 22:50*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/09/23 17:10*	*11/15/23 22:50*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Acenaphthylene	ND		45.5	17.1	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Acetophenone	ND		114	28.5	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Anthracene	ND		45.5	13.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Atrazine	ND		376	78.5	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzaldehyde	ND		376	63.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzo[a]anthracene	ND		45.5	17.1	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzo[a]pyrene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzo[b]fluoranthene	ND		45.5	13.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzo[g,h,i]perylene	ND		45.5	30.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Benzo[k]fluoranthene	ND		45.5	11.4	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
1,1'-Biphenyl	ND		114	31.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Bis(2-chloroethoxy)methane	ND		114	22.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Bis(2-chloroethyl)ether	ND		114	25.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
bis (2-chloroisopropyl) ether	ND		114	29.6	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Bis(2-ethylhexyl) phthalate	ND		171	63.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Bromophenyl phenyl ether	ND		114	36.4	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Butyl benzyl phthalate	ND		171	58.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Caprolactam	ND		376	78.5	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Carbazole	ND		114	30.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Chloroaniline	ND		171	18.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Chloro-3-methylphenol	ND		171	43.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Chloronaphthalene	ND		114	31.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Chlorophenol	ND		114	29.6	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Chlorophenyl phenyl ether	ND		114	31.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Chrysene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Dibenz(a,h)anthracene	ND		45.5	17.1	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Dibenzofuran	ND		114	33.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
3,3'-Dichlorobenzidine	ND		171	108	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4-Dichlorophenol	ND		171	30.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Diethyl phthalate	ND		171	48.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4-Dimethylphenol	ND		171	41.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Dimethyl phthalate	ND		171	45.5	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Di-n-butyl phthalate	ND		171	27.3	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4,6-Dinitro-2-methylphenol	ND		376	118	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4-Dinitrophenol	ND		376	195	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4-Dinitrotoluene	ND		228	26.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,6-Dinitrotoluene	ND		228	41.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Di-n-octyl phthalate	ND		171	56.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Fluoranthene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Fluorene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Hexachlorobenzene	ND		45.5	15.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Hexachlorobutadiene	ND		114	23.9	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1

Client Sample ID: SB-7 (33-35)
Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6
Matrix: Solid
Percent Solids: 86.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		376	44.4	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Hexachloroethane	ND		114	36.4	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Indeno[1,2,3-cd]pyrene	ND		45.5	13.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Isophorone	ND		114	29.6	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Methylnaphthalene	ND		45.5	14.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Methylphenol	ND		228	46.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
3 & 4 Methylphenol	ND		455	46.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Naphthalene	ND		45.5	14.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Nitroaniline	ND		228	43.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
3-Nitroaniline	ND		228	39.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Nitroaniline	ND		228	29.6	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Nitrobenzene	ND		114	25.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2-Nitrophenol	ND		114	39.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
4-Nitrophenol	ND		376	102	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
N-Nitrosodi-n-propylamine	ND		114	42.1	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
N-Nitrosodiphenylamine	ND		114	30.7	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Pentachlorophenol	ND		307	119	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Phenanthrene	ND		45.5	14.8	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Phenol	ND		114	43.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
Pyrene	ND		45.5	18.2	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4,5-Trichlorophenol	ND		171	37.6	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1
2,4,6-Trichlorophenol	ND		171	33.0	ug/Kg	☼	11/14/23 08:27	11/15/23 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*66*		*34 - 120*	*11/14/23 08:27*	*11/15/23 16:21*	*1*
2-Fluorophenol (Surr)	*65*		*20 - 120*	*11/14/23 08:27*	*11/15/23 16:21*	*1*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*	*11/14/23 08:27*	*11/15/23 16:21*	*1*
Phenol-d5 (Surr)	*68*		*26 - 120*	*11/14/23 08:27*	*11/15/23 16:21*	*1*
Terphenyl-d14 (Surr)	*75*		*46 - 137*	*11/14/23 08:27*	*11/15/23 16:21*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*10 - 120*	*11/14/23 08:27*	*11/15/23 16:21*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.3	8.47	mg/Kg	☼	11/10/23 13:25	11/16/23 20:20	1
Diesel	ND		11.3	4.51	mg/Kg	☼	11/10/23 13:25	11/16/23 20:20	1
Waste Oil	ND		11.3	2.30	mg/Kg	☼	11/10/23 13:25	11/16/23 20:20	1
Total Extractable Hydrocarbons	**7.28**	**J B Z**	16.9	4.51	mg/Kg	☼	11/10/23 13:25	11/16/23 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*93*		*12 - 126*	*11/10/23 13:25*	*11/16/23 20:20*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4800**		19.7	5.25	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Antimony	ND		1.97	0.353	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Arsenic	**5.41**		1.48	0.311	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Barium	**89.5**		19.7	0.356	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Beryllium	**0.409**	**J**	0.492	0.0532	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Cadmium	**0.101**	**J**	0.492	0.0473	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Calcium	**2180**		492	35.9	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (33-35)

Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6

Matrix: Solid
Percent Solids: 86.1

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.1		0.984	0.338	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Cobalt	7.72		0.984	0.0728	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Copper	9.96		2.46	0.232	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Iron	14200		19.7	6.83	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Lead	4.89		0.984	0.278	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Magnesium	1460		492	15.0	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Manganese	259		1.48	0.255	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Nickel	16.8		3.94	0.488	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Potassium	713		492	35.2	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Selenium	ND		1.97	0.462	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Silver	ND		0.984	0.0797	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Sodium	ND		492	140	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Thallium	ND	^+	1.97	0.393	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Vanadium	17.5		4.92	0.809	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1
Zinc	29.2		4.92	1.35	mg/Kg	☼	11/10/23 15:00	11/13/23 14:06	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.124	0.0224	mg/Kg	☼	11/10/23 15:00	11/13/23 17:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	86.1		0.1	0.1	%			11/10/23 16:58	1
Percent Moisture (EPA Moisture)	13.9		0.1	0.1	%			11/10/23 16:58	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(41-143)	(41-138)	(58-125)	(56-125)
240-195065-1	SB-5 (0-3)	107	90	102	107
240-195065-2	SB-5 (33-35)	110	92	107	109
240-195065-3	SB-6 (0-3)	111	95	108	109
240-195065-4	SB-6 (33-35)	107	87	105	106
240-195065-5	SB-7 (0-3)	111	91	106	108
240-195065-6	SB-7 (33-35)	106	90	105	107
LCS 240-594763/4	Lab Control Sample	105	93	97	105
MB 240-594763/7	Method Blank	105	91	100	105

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(20-120)	(25-120)	(26-120)	(46-137)	(10-120)
240-195065-1	SB-5 (0-3)	53	57	56	55	56	39
240-195065-2	SB-5 (33-35)	50	54	51	56	61	44
240-195065-3	SB-6 (0-3)	64	65	62	68	68	45
240-195065-4	SB-6 (33-35)	46	49	48	48	44 S1-	24
240-195065-5	SB-7 (0-3)	56	60	58	63	61	10
240-195065-5 MS	SB-7 (0-3)	48	53	52	51	56	53
240-195065-5 MSD	SB-7 (0-3)	57	62	62	62	64	58
240-195065-6	SB-7 (33-35)	66	65	62	68	75	63
LCS 240-594331/2-A	Lab Control Sample	73	79	80	81	81	84
LCS 240-594489/2-A	Lab Control Sample	88	84	93	91	94	99
MB 240-594331/1-A	Method Blank	62	67	63	67	67	61
MB 240-594489/1-A	Method Blank	82	81	84	84	95	73

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCN
Lab Sample ID	Client Sample ID	(12-126)
240-195065-1	SB-5 (0-3)	81
240-195065-2	SB-5 (33-35)	93
240-195065-3	SB-6 (0-3)	93

Surrogate Summary

Client: Tetra Tech EM Inc.
Job ID: 240-195065-1
Project/Site: Elkem Carbide site

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**OTCN (12-126)**							
240-195065-4	SB-6 (33-35)	95							
240-195065-5	SB-7 (0-3)	75							
240-195065-6	SB-7 (33-35)	93							
LCS 310-405656/2-A	Lab Control Sample	89							
MB 310-405656/1-A	Method Blank	86							

Surrogate Legend

OTCN = n-Octacosane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-594763/7
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/15/23 18:50	1
Benzene	ND		5.00	0.698	ug/Kg			11/15/23 18:50	1
Bromoform	ND		5.00	2.40	ug/Kg			11/15/23 18:50	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/15/23 18:50	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/15/23 18:50	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/15/23 18:50	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/15/23 18:50	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/15/23 18:50	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/15/23 18:50	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/15/23 18:50	1
Chloroform	ND		5.00	0.788	ug/Kg			11/15/23 18:50	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/15/23 18:50	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/15/23 18:50	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/15/23 18:50	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/15/23 18:50	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/15/23 18:50	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/15/23 18:50	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/15/23 18:50	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/15/23 18:50	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/15/23 18:50	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/15/23 18:50	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/15/23 18:50	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/15/23 18:50	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/15/23 18:50	1
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/15/23 18:50	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/15/23 18:50	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/15/23 18:50	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/15/23 18:50	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/15/23 18:50	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/15/23 18:50	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/15/23 18:50	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/15/23 18:50	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/15/23 18:50	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/15/23 18:50	1
Styrene	ND		5.00	1.16	ug/Kg			11/15/23 18:50	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/15/23 18:50	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/15/23 18:50	1
Toluene	ND		5.00	0.773	ug/Kg			11/15/23 18:50	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/15/23 18:50	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/15/23 18:50	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/15/23 18:50	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/15/23 18:50	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/15/23 18:50	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/15/23 18:50	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/15/23 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/15/23 18:50	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/15/23 18:50	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/15/23 18:50	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-594763/7
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		41 - 143		11/15/23 18:50	1
Dibromofluoromethane (Surr)	91		41 - 138		11/15/23 18:50	1
1,2-Dichloroethane-d4 (Surr)	100		58 - 125		11/15/23 18:50	1
Toluene-d8 (Surr)	105		56 - 125		11/15/23 18:50	1

Lab Sample ID: LCS 240-594763/4
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	51.26		ug/Kg		103	58 - 160
Benzene	25.0	23.78		ug/Kg		95	76 - 121
Bromoform	25.0	16.28		ug/Kg		65	57 - 140
Bromomethane	25.0	33.55		ug/Kg		134	10 - 171
2-Butanone (MEK)	50.0	41.33		ug/Kg		83	63 - 142
Carbon disulfide	25.0	25.58		ug/Kg		102	43 - 152
Carbon tetrachloride	25.0	20.86		ug/Kg		83	64 - 144
Chlorobenzene	25.0	22.17		ug/Kg		89	80 - 120
Chlorodibromomethane	25.0	19.55		ug/Kg		78	68 - 131
Chloroethane	25.0	26.63		ug/Kg		107	11 - 164
Chloroform	25.0	21.02		ug/Kg		84	78 - 120
Chloromethane	25.0	26.78		ug/Kg		107	41 - 142
cis-1,2-Dichloroethene	25.0	22.35		ug/Kg		89	78 - 124
cis-1,3-Dichloropropene	25.0	20.16		ug/Kg		81	70 - 133
Cyclohexane	25.0	26.41		ug/Kg		106	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	17.33		ug/Kg		69	52 - 133
1,2-Dichlorobenzene	25.0	21.36		ug/Kg		85	73 - 120
1,3-Dichlorobenzene	25.0	22.42		ug/Kg		90	73 - 120
1,4-Dichlorobenzene	25.0	21.73		ug/Kg		87	74 - 120
Dichlorobromomethane	25.0	19.79		ug/Kg		79	71 - 138
Dichlorodifluoromethane	25.0	25.88		ug/Kg		104	21 - 150
1,1-Dichloroethane	25.0	23.84		ug/Kg		95	74 - 121
1,2-Dichloroethane	25.0	19.81		ug/Kg		79	71 - 123
1,1-Dichloroethene	25.0	26.16		ug/Kg		105	68 - 141
1,2-Dichloropropane	25.0	24.40		ug/Kg		98	76 - 126
Ethylbenzene	25.0	23.27		ug/Kg		93	80 - 120
Ethylene Dibromide	25.0	20.83		ug/Kg		83	80 - 121
2-Hexanone	50.0	47.52		ug/Kg		95	65 - 142
Isopropylbenzene	25.0	24.12		ug/Kg		96	80 - 130
Methyl acetate	50.0	40.34		ug/Kg		81	60 - 133
Methylcyclohexane	25.0	24.99		ug/Kg		100	70 - 138
Methylene Chloride	25.0	24.67	J	ug/Kg		99	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	45.51		ug/Kg		91	62 - 142
Methyl tert-butyl ether	25.0	20.54		ug/Kg		82	70 - 130
m-Xylene & p-Xylene	25.0	22.57		ug/Kg		90	80 - 122
o-Xylene	25.0	22.09		ug/Kg		88	80 - 124
Styrene	25.0	22.51		ug/Kg		90	75 - 140
1,1,2,2-Tetrachloroethane	25.0	22.16		ug/Kg		89	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-594763/4
Matrix: Solid
Analysis Batch: 594763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	25.0	23.14		ug/Kg		93	76 - 127
Toluene	25.0	23.57		ug/Kg		94	80 - 120
trans-1,2-Dichloroethene	25.0	23.35		ug/Kg		93	76 - 130
trans-1,3-Dichloropropene	25.0	21.65		ug/Kg		87	61 - 121
1,2,4-Trichlorobenzene	25.0	23.17		ug/Kg		93	58 - 132
1,1,1-Trichloroethane	25.0	21.59		ug/Kg		86	74 - 136
1,1,2-Trichloroethane	25.0	22.91		ug/Kg		92	79 - 120
Trichloroethene	25.0	21.69		ug/Kg		87	74 - 130
Trichlorofluoromethane	25.0	24.25		ug/Kg		97	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.28		ug/Kg		93	64 - 148
Vinyl chloride	25.0	27.28		ug/Kg		109	49 - 146
Xylenes, Total	50.0	44.66		ug/Kg		89	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 143*
Dibromofluoromethane (Surr)	*93*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*97*		*58 - 125*
Toluene-d8 (Surr)	*105*		*56 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-594331/1-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Acetophenone	ND		100	25.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Anthracene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Atrazine	ND		330	69.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Caprolactam	ND		330	69.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Carbazole	ND		100	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594331/1-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594331

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Chrysene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Di-n-butyl phthalate	46.96	J	150	24.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Fluorene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Isophorone	ND		100	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Pentachlorophenol	ND		270	105	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Phenol	ND		100	38.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
Pyrene	ND		40.0	16.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/13/23 08:41	11/14/23 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*62*		*34 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
2-Fluorophenol (Surr)	*67*		*20 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*
Nitrobenzene-d5 (Surr)	*63*		*25 - 120*	*11/13/23 08:41*	*11/14/23 08:49*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594331/1-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594331

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	67		26 - 120	11/13/23 08:41	11/14/23 08:49	1
Terphenyl-d14 (Surr)	67		46 - 137	11/13/23 08:41	11/14/23 08:49	1
2,4,6-Tribromophenol (Surr)	61		10 - 120	11/13/23 08:41	11/14/23 08:49	1

Lab Sample ID: LCS 240-594331/2-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1005		ug/Kg		75	52 - 120
Acenaphthylene	1330	1023		ug/Kg		77	52 - 120
Acetophenone	1330	1025		ug/Kg		77	47 - 120
Anthracene	1330	1114		ug/Kg		84	64 - 120
Atrazine	2670	2433		ug/Kg		91	71 - 125
Benzaldehyde	2670	2078		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1136		ug/Kg		85	70 - 120
Benzo[a]pyrene	1330	1008		ug/Kg		76	63 - 125
Benzo[b]fluoranthene	1330	1139		ug/Kg		85	64 - 121
Benzo[g,h,i]perylene	1330	1108		ug/Kg		83	62 - 120
Benzo[k]fluoranthene	1330	1075		ug/Kg		81	63 - 128
1,1'-Biphenyl	1330	986.6		ug/Kg		74	50 - 120
Bis(2-chloroethoxy)methane	1330	1006		ug/Kg		75	50 - 120
Bis(2-chloroethyl)ether	1330	915.0		ug/Kg		69	42 - 120
bis (2-chloroisopropyl) ether	1330	995.6		ug/Kg		75	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1066		ug/Kg		80	63 - 133
4-Bromophenyl phenyl ether	1330	1119		ug/Kg		84	65 - 120
Butyl benzyl phthalate	1330	1077		ug/Kg		81	66 - 127
Caprolactam	2670	2152		ug/Kg		81	67 - 120
Carbazole	1330	1179		ug/Kg		88	61 - 129
4-Chloroaniline	1330	596.5		ug/Kg		45	29 - 120
4-Chloro-3-methylphenol	1330	1117		ug/Kg		84	51 - 120
2-Chloronaphthalene	1330	982.5		ug/Kg		74	51 - 120
2-Chlorophenol	1330	1028		ug/Kg		77	47 - 120
4-Chlorophenyl phenyl ether	1330	1020		ug/Kg		76	59 - 120
Chrysene	1330	1047		ug/Kg		79	67 - 120
Dibenz(a,h)anthracene	1330	1031		ug/Kg		77	62 - 120
Dibenzofuran	1330	977.7		ug/Kg		73	55 - 120
3,3'-Dichlorobenzidine	2670	1863		ug/Kg		70	27 - 199
2,4-Dichlorophenol	1330	1007		ug/Kg		76	50 - 120
Diethyl phthalate	1330	1119		ug/Kg		84	61 - 120
2,4-Dimethylphenol	1330	859.9		ug/Kg		64	24 - 120
Dimethyl phthalate	1330	1075		ug/Kg		81	64 - 120
Di-n-butyl phthalate	1330	1108		ug/Kg		83	70 - 129
4,6-Dinitro-2-methylphenol	2670	912.8		ug/Kg		34	10 - 120
2,4-Dinitrophenol	2670	548.9		ug/Kg		21	10 - 120
2,4-Dinitrotoluene	1330	1039		ug/Kg		78	64 - 120
2,6-Dinitrotoluene	1330	1055		ug/Kg		79	62 - 120
Di-n-octyl phthalate	1330	1052		ug/Kg		79	64 - 129

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594331/2-A
Matrix: Solid
Analysis Batch: 594465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoranthene	1330	1101		ug/Kg		83	71 - 124
Fluorene	1330	1045		ug/Kg		78	58 - 120
Hexachlorobenzene	1330	1050		ug/Kg		79	59 - 120
Hexachlorobutadiene	1330	986.7		ug/Kg		74	45 - 120
Hexachlorocyclopentadiene	1330	674.0		ug/Kg		51	10 - 120
Hexachloroethane	1330	959.7		ug/Kg		72	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1047		ug/Kg		78	65 - 122
Isophorone	1330	1057		ug/Kg		79	50 - 120
2-Methylnaphthalene	1330	1002		ug/Kg		75	38 - 120
2-Methylphenol	1330	1049		ug/Kg		79	45 - 120
3 & 4 Methylphenol	1330	1021		ug/Kg		77	49 - 120
Naphthalene	1330	941.5		ug/Kg		71	34 - 120
2-Nitroaniline	1330	1125		ug/Kg		84	57 - 120
3-Nitroaniline	1330	816.5		ug/Kg		61	41 - 120
4-Nitroaniline	1330	1049		ug/Kg		79	48 - 128
Nitrobenzene	1330	1071		ug/Kg		80	48 - 120
2-Nitrophenol	1330	985.7		ug/Kg		74	51 - 120
4-Nitrophenol	2670	2241		ug/Kg		84	43 - 120
N-Nitrosodi-n-propylamine	1330	1147		ug/Kg		86	48 - 120
N-Nitrosodiphenylamine	1330	1065		ug/Kg		80	64 - 120
Pentachlorophenol	2670	2019		ug/Kg		76	10 - 120
Phenanthrene	1330	1018		ug/Kg		76	60 - 120
Phenol	1330	1021		ug/Kg		77	48 - 120
Pyrene	1330	1074		ug/Kg		81	67 - 120
2,4,5-Trichlorophenol	1330	1063		ug/Kg		80	50 - 120
2,4,6-Trichlorophenol	1330	1045		ug/Kg		78	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*73*		*34 - 120*
2-Fluorophenol (Surr)	*79*		*20 - 120*
Nitrobenzene-d5 (Surr)	*80*		*25 - 120*
Phenol-d5 (Surr)	*81*		*26 - 120*
Terphenyl-d14 (Surr)	*81*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*84*		*10 - 120*

Lab Sample ID: 240-195065-5 MS
Matrix: Solid
Analysis Batch: 594628

Client Sample ID: SB-7 (0-3)
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	ND		1620	803.7		ug/Kg	☼	50	33 - 120
Acenaphthylene	ND		1620	807.9		ug/Kg	☼	50	39 - 120
Acetophenone	ND		1620	848.9		ug/Kg	☼	52	11 - 120
Anthracene	ND		1620	932.2		ug/Kg	☼	58	30 - 127
Atrazine	ND		3240	2057		ug/Kg	☼	63	52 - 126
Benzaldehyde	ND		3240	1656		ug/Kg	☼	51	13 - 120
Benzo[a]anthracene	31.6	J	1620	949.8		ug/Kg	☼	57	24 - 137
Benzo[a]pyrene	38.1	J	1620	843.8		ug/Kg	☼	50	28 - 136

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195065-5 MS
Matrix: Solid
Analysis Batch: 594628

Client Sample ID: SB-7 (0-3)
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[b]fluoranthene	23.9	J	1620	957.1		ug/Kg	☼	58	21 - 142
Benzo[g,h,i]perylene	ND		1620	888.0		ug/Kg	☼	55	10 - 144
Benzo[k]fluoranthene	ND		1620	895.8		ug/Kg	☼	55	36 - 135
1,1'-Biphenyl	ND		1620	793.9		ug/Kg	☼	49	29 - 120
Bis(2-chloroethoxy)methane	ND		1620	822.5		ug/Kg	☼	51	25 - 120
Bis(2-chloroethyl)ether	ND		1620	879.8		ug/Kg	☼	54	16 - 120
bis (2-chloroisopropyl) ether	ND		1620	804.0		ug/Kg	☼	50	10 - 120
Bis(2-ethylhexyl) phthalate	ND		1620	952.0		ug/Kg	☼	59	37 - 143
4-Bromophenyl phenyl ether	ND		1620	907.9		ug/Kg	☼	56	49 - 120
Butyl benzyl phthalate	ND		1620	949.2		ug/Kg	☼	59	49 - 130
Caprolactam	ND		3240	1404		ug/Kg	☼	43	37 - 127
Carbazole	ND		1620	964.4		ug/Kg	☼	60	33 - 132
4-Chloroaniline	ND		1620	716.2		ug/Kg	☼	44	10 - 120
4-Chloro-3-methylphenol	ND		1620	738.4		ug/Kg	☼	46	35 - 120
2-Chloronaphthalene	ND		1620	791.6		ug/Kg	☼	49	33 - 120
2-Chlorophenol	ND		1620	839.0		ug/Kg	☼	52	19 - 120
4-Chlorophenyl phenyl ether	ND		1620	850.0		ug/Kg	☼	52	45 - 120
Chrysene	58.3		1620	874.6		ug/Kg	☼	50	28 - 129
Dibenz(a,h)anthracene	23.6	J	1620	848.0		ug/Kg	☼	51	10 - 132
Dibenzofuran	ND		1620	809.7		ug/Kg	☼	50	33 - 120
3,3'-Dichlorobenzidine	ND		3240	1733		ug/Kg	☼	53	10 - 179
2,4-Dichlorophenol	ND		1620	816.2		ug/Kg	☼	50	21 - 120
Diethyl phthalate	ND		1620	857.7		ug/Kg	☼	53	48 - 120
2,4-Dimethylphenol	ND		1620	550.8		ug/Kg	☼	34	10 - 120
Dimethyl phthalate	ND	F1	1620	542.0	F1	ug/Kg	☼	33	45 - 120
Di-n-butyl phthalate	61.5	J B	1620	980.3		ug/Kg	☼	57	40 - 137
4,6-Dinitro-2-methylphenol	ND		3240	818.6		ug/Kg	☼	25	11 - 120
2,4-Dinitrophenol	ND		3240	531.6		ug/Kg	☼	16	10 - 126
2,4-Dinitrotoluene	ND		1620	842.1		ug/Kg	☼	52	46 - 120
2,6-Dinitrotoluene	ND		1620	852.2		ug/Kg	☼	53	44 - 120
Di-n-octyl phthalate	ND		1620	965.8		ug/Kg	☼	60	34 - 152
Fluoranthene	ND		1620	947.8		ug/Kg	☼	59	31 - 140
Fluorene	ND		1620	867.1		ug/Kg	☼	54	43 - 120
Hexachlorobenzene	ND		1620	886.6		ug/Kg	☼	55	44 - 120
Hexachlorobutadiene	ND		1620	719.8		ug/Kg	☼	44	13 - 120
Hexachlorocyclopentadiene	ND		1620	234.0	J	ug/Kg	☼	14	10 - 120
Hexachloroethane	ND		1620	681.1		ug/Kg	☼	42	10 - 120
Indeno[1,2,3-cd]pyrene	25.5	J	1620	860.2		ug/Kg	☼	52	10 - 139
Isophorone	ND		1620	873.9		ug/Kg	☼	54	27 - 120
2-Methylnaphthalene	ND		1620	797.6		ug/Kg	☼	49	13 - 122
2-Methylphenol	ND		1620	778.0		ug/Kg	☼	48	12 - 120
3 & 4 Methylphenol	ND		1620	736.2		ug/Kg	☼	45	10 - 122
Naphthalene	ND		1620	747.3		ug/Kg	☼	46	10 - 120
2-Nitroaniline	ND		1620	646.4		ug/Kg	☼	40	36 - 122
3-Nitroaniline	ND		1620	560.5		ug/Kg	☼	35	10 - 123
4-Nitroaniline	ND		1620	749.0		ug/Kg	☼	46	13 - 129
Nitrobenzene	ND		1620	856.9		ug/Kg	☼	53	19 - 120
2-Nitrophenol	ND		1620	780.3		ug/Kg	☼	48	28 - 120
4-Nitrophenol	ND		3240	1874		ug/Kg	☼	58	28 - 123

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195065-5 MS
Matrix: Solid
Analysis Batch: 594628

Client Sample ID: SB-7 (0-3)
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-Nitrosodi-n-propylamine	ND		1620	968.2		ug/Kg	☼	60	23 - 120
N-Nitrosodiphenylamine	ND		1620	820.5		ug/Kg	☼	51	30 - 128
Pentachlorophenol	ND		3240	1459		ug/Kg	☼	45	10 - 120
Phenanthrene	63.5		1620	864.8		ug/Kg	☼	49	36 - 120
Phenol	ND		1620	828.3		ug/Kg	☼	51	10 - 120
Pyrene	39.8	J	1620	906.0		ug/Kg	☼	53	31 - 134
2,4,5-Trichlorophenol	ND		1620	888.9		ug/Kg	☼	55	35 - 120
2,4,6-Trichlorophenol	ND		1620	824.8		ug/Kg	☼	51	18 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*48*		*34 - 120*
2-Fluorophenol (Surr)	*53*		*20 - 120*
Nitrobenzene-d5 (Surr)	*52*		*25 - 120*
Phenol-d5 (Surr)	*51*		*26 - 120*
Terphenyl-d14 (Surr)	*56*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*53*		*10 - 120*

Lab Sample ID: 240-195065-5 MSD
Matrix: Solid
Analysis Batch: 594628

Client Sample ID: SB-7 (0-3)
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	ND		1610	926.7		ug/Kg	☼	58	33 - 120	14	45
Acenaphthylene	ND		1610	943.6		ug/Kg	☼	59	39 - 120	15	45
Acetophenone	ND		1610	971.0		ug/Kg	☼	60	11 - 120	13	45
Anthracene	ND		1610	1044		ug/Kg	☼	65	30 - 127	11	45
Atrazine	ND		3210	2259		ug/Kg	☼	70	52 - 126	9	34
Benzaldehyde	ND		3210	1898		ug/Kg	☼	59	13 - 120	14	45
Benzo[a]anthracene	31.6	J	1610	1078		ug/Kg	☼	65	24 - 137	13	42
Benzo[a]pyrene	38.1	J	1610	961.5		ug/Kg	☼	57	28 - 136	13	41
Benzo[b]fluoranthene	23.9	J	1610	1096		ug/Kg	☼	67	21 - 142	14	42
Benzo[g,h,i]perylene	ND		1610	1030		ug/Kg	☼	64	10 - 144	15	40
Benzo[k]fluoranthene	ND		1610	1046		ug/Kg	☼	65	36 - 135	15	44
1,1'-Biphenyl	ND		1610	919.6		ug/Kg	☼	57	29 - 120	15	45
Bis(2-chloroethoxy)methane	ND		1610	945.0		ug/Kg	☼	59	25 - 120	14	45
Bis(2-chloroethyl)ether	ND		1610	970.5		ug/Kg	☼	60	16 - 120	10	45
bis (2-chloroisopropyl) ether	ND		1610	929.7		ug/Kg	☼	58	10 - 120	15	45
Bis(2-ethylhexyl) phthalate	ND		1610	1069		ug/Kg	☼	67	37 - 143	12	38
4-Bromophenyl phenyl ether	ND		1610	1024		ug/Kg	☼	64	49 - 120	12	42
Butyl benzyl phthalate	ND		1610	1062		ug/Kg	☼	66	49 - 130	11	41
Caprolactam	ND		3210	1518		ug/Kg	☼	47	37 - 127	8	45
Carbazole	ND		1610	1047		ug/Kg	☼	65	33 - 132	8	45
4-Chloroaniline	ND		1610	838.8		ug/Kg	☼	52	10 - 120	16	45
4-Chloro-3-methylphenol	ND		1610	934.4		ug/Kg	☼	58	35 - 120	23	42
2-Chloronaphthalene	ND		1610	924.8		ug/Kg	☼	58	33 - 120	16	45
2-Chlorophenol	ND		1610	990.3		ug/Kg	☼	62	19 - 120	17	45
4-Chlorophenyl phenyl ether	ND		1610	986.7		ug/Kg	☼	61	45 - 120	15	44
Chrysene	58.3		1610	995.8		ug/Kg	☼	58	28 - 129	13	42

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195065-5 MSD
Matrix: Solid
Analysis Batch: 594628

Client Sample ID: SB-7 (0-3)
Prep Type: Total/NA
Prep Batch: 594331

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz(a,h)anthracene	23.6	J	1610	989.6		ug/Kg	☼	60	10 - 132	15	37
Dibenzofuran	ND		1610	939.0		ug/Kg	☼	58	33 - 120	15	43
3,3'-Dichlorobenzidine	ND		3210	2087		ug/Kg	☼	65	10 - 179	19	45
2,4-Dichlorophenol	ND		1610	924.8		ug/Kg	☼	58	21 - 120	12	44
Diethyl phthalate	ND		1610	1003		ug/Kg	☼	62	48 - 120	16	38
2,4-Dimethylphenol	ND		1610	669.1		ug/Kg	☼	42	10 - 120	19	45
Dimethyl phthalate	ND	F1	1610	752.9		ug/Kg	☼	47	45 - 120	33	43
Di-n-butyl phthalate	61.5	J B	1610	1070		ug/Kg	☼	63	40 - 137	9	42
4,6-Dinitro-2-methylphenol	ND		3210	869.5		ug/Kg	☼	27	11 - 120	6	40
2,4-Dinitrophenol	ND		3210	557.3		ug/Kg	☼	17	10 - 126	5	45
2,4-Dinitrotoluene	ND		1610	972.8		ug/Kg	☼	61	46 - 120	14	45
2,6-Dinitrotoluene	ND		1610	995.8		ug/Kg	☼	62	44 - 120	16	45
Di-n-octyl phthalate	ND		1610	1096		ug/Kg	☼	68	34 - 152	13	39
Fluoranthene	ND		1610	1061		ug/Kg	☼	66	31 - 140	11	45
Fluorene	ND		1610	999.8		ug/Kg	☼	62	43 - 120	14	39
Hexachlorobenzene	ND		1610	1014		ug/Kg	☼	63	44 - 120	13	39
Hexachlorobutadiene	ND		1610	840.6		ug/Kg	☼	52	13 - 120	15	45
Hexachlorocyclopentadiene	ND		1610	260.0	J	ug/Kg	☼	16	10 - 120	11	45
Hexachloroethane	ND		1610	797.2		ug/Kg	☼	50	10 - 120	16	45
Indeno[1,2,3-cd]pyrene	25.5	J	1610	1002		ug/Kg	☼	61	10 - 139	15	41
Isophorone	ND		1610	993.0		ug/Kg	☼	62	27 - 120	13	45
2-Methylnaphthalene	ND		1610	932.5		ug/Kg	☼	58	13 - 122	16	45
2-Methylphenol	ND		1610	926.9		ug/Kg	☼	58	12 - 120	17	45
3 & 4 Methylphenol	ND		1610	898.2		ug/Kg	☼	56	10 - 122	20	45
Naphthalene	ND		1610	847.1		ug/Kg	☼	53	10 - 120	13	45
2-Nitroaniline	ND		1610	854.3		ug/Kg	☼	53	36 - 122	28	42
3-Nitroaniline	ND		1610	649.8		ug/Kg	☼	40	10 - 123	15	45
4-Nitroaniline	ND		1610	928.1		ug/Kg	☼	58	13 - 129	21	38
Nitrobenzene	ND		1610	955.1		ug/Kg	☼	59	19 - 120	11	45
2-Nitrophenol	ND		1610	895.6		ug/Kg	☼	56	28 - 120	14	45
4-Nitrophenol	ND		3210	2159		ug/Kg	☼	67	28 - 123	14	45
N-Nitrosodi-n-propylamine	ND		1610	1113		ug/Kg	☼	69	23 - 120	14	45
N-Nitrosodiphenylamine	ND		1610	935.6		ug/Kg	☼	58	30 - 128	13	44
Pentachlorophenol	ND		3210	1454		ug/Kg	☼	45	10 - 120	0	45
Phenanthrene	63.5		1610	980.3		ug/Kg	☼	57	36 - 120	13	41
Phenol	ND		1610	986.7		ug/Kg	☼	61	10 - 120	17	45
Pyrene	39.8	J	1610	1026		ug/Kg	☼	61	31 - 134	12	43
2,4,5-Trichlorophenol	ND		1610	979.3		ug/Kg	☼	61	35 - 120	10	39
2,4,6-Trichlorophenol	ND		1610	911.4		ug/Kg	☼	57	18 - 120	10	45

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*57*		*34 - 120*
2-Fluorophenol (Surr)	*62*		*20 - 120*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*
Phenol-d5 (Surr)	*62*		*26 - 120*
Terphenyl-d14 (Surr)	*64*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*58*		*10 - 120*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594489/1-A
Matrix: Solid
Analysis Batch: 594667

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Acetophenone	ND		100	25.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Anthracene	ND		40.0	12.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Atrazine	ND		330	69.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Caprolactam	ND		330	69.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Carbazole	ND		100	27.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Chrysene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Fluorene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Isophorone	ND		100	26.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594489/1-A
Matrix: Solid
Analysis Batch: 594667

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Pentachlorophenol	ND		270	105	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Phenol	ND		100	38.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
Pyrene	ND		40.0	16.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/14/23 08:27	11/15/23 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*82*		*34 - 120*	*11/14/23 08:27*	*11/15/23 12:44*	*1*
2-Fluorophenol (Surr)	*81*		*20 - 120*	*11/14/23 08:27*	*11/15/23 12:44*	*1*
Nitrobenzene-d5 (Surr)	*84*		*25 - 120*	*11/14/23 08:27*	*11/15/23 12:44*	*1*
Phenol-d5 (Surr)	*84*		*26 - 120*	*11/14/23 08:27*	*11/15/23 12:44*	*1*
Terphenyl-d14 (Surr)	*95*		*46 - 137*	*11/14/23 08:27*	*11/15/23 12:44*	*1*
2,4,6-Tribromophenol (Surr)	*73*		*10 - 120*	*11/14/23 08:27*	*11/15/23 12:44*	*1*

Lab Sample ID: LCS 240-594489/2-A
Matrix: Solid
Analysis Batch: 594667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1161		ug/Kg		87	52 - 120
Acenaphthylene	1330	1156		ug/Kg		87	52 - 120
Acetophenone	1330	1139		ug/Kg		85	47 - 120
Anthracene	1330	1197		ug/Kg		90	64 - 120
Atrazine	2670	2910		ug/Kg		109	71 - 125
Benzaldehyde	2670	2388		ug/Kg		90	42 - 120
Benzo[a]anthracene	1330	1209		ug/Kg		91	70 - 120
Benzo[a]pyrene	1330	1151		ug/Kg		86	63 - 125
Benzo[b]fluoranthene	1330	1253		ug/Kg		94	64 - 121
Benzo[g,h,i]perylene	1330	1427		ug/Kg		107	62 - 120
Benzo[k]fluoranthene	1330	1428		ug/Kg		107	63 - 128
1,1'-Biphenyl	1330	1142		ug/Kg		86	50 - 120
Bis(2-chloroethoxy)methane	1330	1199		ug/Kg		90	50 - 120
Bis(2-chloroethyl)ether	1330	1058		ug/Kg		79	42 - 120
bis (2-chloroisopropyl) ether	1330	1181		ug/Kg		89	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1116		ug/Kg		84	63 - 133
4-Bromophenyl phenyl ether	1330	1209		ug/Kg		91	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594489/2-A
Matrix: Solid
Analysis Batch: 594667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butyl benzyl phthalate	1330	1200		ug/Kg		90	66 - 127
Caprolactam	2670	2464		ug/Kg		92	67 - 120
Carbazole	1330	1270		ug/Kg		95	61 - 129
4-Chloroaniline	1330	698.8		ug/Kg		52	29 - 120
4-Chloro-3-methylphenol	1330	1276		ug/Kg		96	51 - 120
2-Chloronaphthalene	1330	1128		ug/Kg		85	51 - 120
2-Chlorophenol	1330	1109		ug/Kg		83	47 - 120
4-Chlorophenyl phenyl ether	1330	1204		ug/Kg		90	59 - 120
Chrysene	1330	1227		ug/Kg		92	67 - 120
Dibenz(a,h)anthracene	1330	1357		ug/Kg		102	62 - 120
Dibenzofuran	1330	1189		ug/Kg		89	55 - 120
3,3'-Dichlorobenzidine	2670	1833		ug/Kg		69	27 - 199
2,4-Dichlorophenol	1330	1183		ug/Kg		89	50 - 120
Diethyl phthalate	1330	1247		ug/Kg		93	61 - 120
2,4-Dimethylphenol	1330	1024		ug/Kg		77	24 - 120
Dimethyl phthalate	1330	1210		ug/Kg		91	64 - 120
Di-n-butyl phthalate	1330	1331		ug/Kg		100	70 - 129
4,6-Dinitro-2-methylphenol	2670	743.1		ug/Kg		28	10 - 120
2,4-Dinitrophenol	2670	306.7	J	ug/Kg		12	10 - 120
2,4-Dinitrotoluene	1330	1293		ug/Kg		97	64 - 120
2,6-Dinitrotoluene	1330	1298		ug/Kg		97	62 - 120
Di-n-octyl phthalate	1330	1171		ug/Kg		88	64 - 129
Fluoranthene	1330	1279		ug/Kg		96	71 - 124
Fluorene	1330	1198		ug/Kg		90	58 - 120
Hexachlorobenzene	1330	1127		ug/Kg		85	59 - 120
Hexachlorobutadiene	1330	1203		ug/Kg		90	45 - 120
Hexachlorocyclopentadiene	1330	669.4		ug/Kg		50	10 - 120
Hexachloroethane	1330	1085		ug/Kg		81	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1214		ug/Kg		91	65 - 122
Isophorone	1330	1250		ug/Kg		94	50 - 120
2-Methylnaphthalene	1330	1155		ug/Kg		87	38 - 120
2-Methylphenol	1330	1123		ug/Kg		84	45 - 120
3 & 4 Methylphenol	1330	1141		ug/Kg		86	49 - 120
Naphthalene	1330	1112		ug/Kg		83	34 - 120
2-Nitroaniline	1330	1417		ug/Kg		106	57 - 120
3-Nitroaniline	1330	1033		ug/Kg		78	41 - 120
4-Nitroaniline	1330	1227		ug/Kg		92	48 - 128
Nitrobenzene	1330	1240		ug/Kg		93	48 - 120
2-Nitrophenol	1330	1218		ug/Kg		91	51 - 120
4-Nitrophenol	2670	2847		ug/Kg		107	43 - 120
N-Nitrosodi-n-propylamine	1330	1238		ug/Kg		93	48 - 120
N-Nitrosodiphenylamine	1330	1175		ug/Kg		88	64 - 120
Pentachlorophenol	2670	1699		ug/Kg		64	10 - 120
Phenanthrene	1330	1155		ug/Kg		87	60 - 120
Phenol	1330	1195		ug/Kg		90	48 - 120
Pyrene	1330	1268		ug/Kg		95	67 - 120
2,4,5-Trichlorophenol	1330	1217		ug/Kg		91	50 - 120
2,4,6-Trichlorophenol	1330	1232		ug/Kg		92	50 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594489/2-A
Matrix: Solid
Analysis Batch: 594667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594489

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*88*		*34 - 120*
2-Fluorophenol (Surr)	*84*		*20 - 120*
Nitrobenzene-d5 (Surr)	*93*		*25 - 120*
Phenol-d5 (Surr)	*91*		*26 - 120*
Terphenyl-d14 (Surr)	*94*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*99*		*10 - 120*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-405656/1-A
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.48	7.11	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Diesel	ND		9.48	3.78	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Waste Oil	ND		9.48	1.93	mg/Kg		11/10/23 13:25	11/16/23 15:48	1
Total Extractable Hydrocarbons	6.914	J Z	14.2	3.78	mg/Kg		11/10/23 13:25	11/16/23 15:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*12 - 126*	*11/10/23 13:25*	*11/16/23 15:48*	*1*

Lab Sample ID: LCS 310-405656/2-A
Matrix: Solid
Analysis Batch: 406178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405656

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel			131	104.0		mg/Kg		79	34 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*89*		*12 - 126*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-594237/1-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Antimony	ND		2.00	0.359	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Arsenic	ND		1.50	0.316	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Barium	ND		20.0	0.362	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Calcium	ND		500	36.5	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Chromium	ND		1.00	0.343	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/10/23 15:00	11/13/23 10:06	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 240-594237/1-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594237

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		2.50	0.236	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Iron	ND		20.0	6.94	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Lead	ND		1.00	0.282	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Magnesium	ND		500	15.3	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Manganese	ND		1.50	0.259	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Nickel	ND		4.00	0.496	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Potassium	ND		500	35.8	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Selenium	ND		2.00	0.469	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Silver	ND		1.00	0.0810	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Sodium	ND		500	142	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Thallium	ND	^+	2.00	0.399	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Vanadium	ND		5.00	0.822	mg/Kg		11/10/23 15:00	11/13/23 10:06	1
Zinc	ND		5.00	1.37	mg/Kg		11/10/23 15:00	11/13/23 10:06	1

Lab Sample ID: LCS 240-594237/2-A
Matrix: Solid
Analysis Batch: 594427

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594237

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	1008		mg/Kg		101	80 - 120
Antimony	100	102.1		mg/Kg		102	80 - 120
Arsenic	200	200.9		mg/Kg		100	80 - 120
Barium	200	199.6		mg/Kg		100	80 - 120
Beryllium	100	102.5		mg/Kg		103	80 - 120
Cadmium	100	99.13		mg/Kg		99	80 - 120
Calcium	5000	4967		mg/Kg		99	80 - 120
Chromium	100	97.01		mg/Kg		97	80 - 120
Cobalt	100	98.37		mg/Kg		98	80 - 120
Copper	100	97.00		mg/Kg		97	80 - 120
Iron	1000	1014		mg/Kg		101	80 - 120
Lead	100	93.79		mg/Kg		94	80 - 120
Magnesium	5000	5047		mg/Kg		101	80 - 120
Manganese	100	99.37		mg/Kg		99	80 - 120
Nickel	100	98.81		mg/Kg		99	80 - 120
Potassium	5000	4876		mg/Kg		98	80 - 120
Selenium	200	201.4		mg/Kg		101	80 - 120
Silver	10.0	9.838		mg/Kg		98	80 - 120
Sodium	5000	4882		mg/Kg		98	80 - 120
Thallium	200	206.0	^+	mg/Kg		103	80 - 120
Vanadium	100	100.4		mg/Kg		100	80 - 120
Zinc	100	99.11		mg/Kg		99	80 - 120

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-594240/1-A
Matrix: Solid
Analysis Batch: 594496

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594240

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/10/23 15:00	11/13/23 16:49	1

Lab Sample ID: LCS 240-594240/2-A
Matrix: Solid
Analysis Batch: 594496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594240

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.833	0.9129		mg/Kg		110	80 - 120		

Lab Sample ID: LCSD 240-594240/3-A
Matrix: Solid
Analysis Batch: 594496

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 594240

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury			0.833	0.8971		mg/Kg		108	80 - 120	2	20

Method: Moisture - Percent Moisture

Lab Sample ID: 240-195065-4 DU
Matrix: Solid
Analysis Batch: 594271

Client Sample ID: SB-6 (33-35)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	88.3			88.6		%				0.3	20
Percent Moisture	11.7			11.4		%				2	20

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

GC/MS VOA

Prep Batch: 594618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	5035	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	5035	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	5035	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	5035	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	5035	
240-195065-6	SB-7 (33-35)	Total/NA	Solid	5035	

Analysis Batch: 594763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	8260D	594618
240-195065-2	SB-5 (33-35)	Total/NA	Solid	8260D	594618
240-195065-3	SB-6 (0-3)	Total/NA	Solid	8260D	594618
240-195065-4	SB-6 (33-35)	Total/NA	Solid	8260D	594618
240-195065-5	SB-7 (0-3)	Total/NA	Solid	8260D	594618
240-195065-6	SB-7 (33-35)	Total/NA	Solid	8260D	594618
MB 240-594763/7	Method Blank	Total/NA	Solid	8260D	
LCS 240-594763/4	Lab Control Sample	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 594331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	3546	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	3546	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	3546	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	3546	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	3546	
MB 240-594331/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-594331/2-A	Lab Control Sample	Total/NA	Solid	3546	
240-195065-5 MS	SB-7 (0-3)	Total/NA	Solid	3546	
240-195065-5 MSD	SB-7 (0-3)	Total/NA	Solid	3546	

Analysis Batch: 594465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-594331/1-A	Method Blank	Total/NA	Solid	8270E	594331
LCS 240-594331/2-A	Lab Control Sample	Total/NA	Solid	8270E	594331

Prep Batch: 594489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-6	SB-7 (33-35)	Total/NA	Solid	3546	
MB 240-594489/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-594489/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 594628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	8270E	594331
240-195065-2	SB-5 (33-35)	Total/NA	Solid	8270E	594331
240-195065-3	SB-6 (0-3)	Total/NA	Solid	8270E	594331
240-195065-4	SB-6 (33-35)	Total/NA	Solid	8270E	594331
240-195065-5	SB-7 (0-3)	Total/NA	Solid	8270E	594331
240-195065-5 MS	SB-7 (0-3)	Total/NA	Solid	8270E	594331

GC/MS Semi VOA (Continued)

Analysis Batch: 594628 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-5 MSD	SB-7 (0-3)	Total/NA	Solid	8270E	594331

Analysis Batch: 594667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-6	SB-7 (33-35)	Total/NA	Solid	8270E	594489
MB 240-594489/1-A	Method Blank	Total/NA	Solid	8270E	594489
LCS 240-594489/2-A	Lab Control Sample	Total/NA	Solid	8270E	594489

GC Semi VOA

Prep Batch: 405656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	3546	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	3546	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	3546	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	3546	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	3546	
240-195065-6	SB-7 (33-35)	Total/NA	Solid	3546	
MB 310-405656/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-405656/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 406178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	OA-2	405656
240-195065-2	SB-5 (33-35)	Total/NA	Solid	OA-2	405656
240-195065-3	SB-6 (0-3)	Total/NA	Solid	OA-2	405656
240-195065-4	SB-6 (33-35)	Total/NA	Solid	OA-2	405656
240-195065-5	SB-7 (0-3)	Total/NA	Solid	OA-2	405656
240-195065-6	SB-7 (33-35)	Total/NA	Solid	OA-2	405656
MB 310-405656/1-A	Method Blank	Total/NA	Solid	OA-2	405656
LCS 310-405656/2-A	Lab Control Sample	Total/NA	Solid	OA-2	405656

Metals

Prep Batch: 594237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	3050B	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	3050B	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	3050B	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	3050B	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	3050B	
240-195065-6	SB-7 (33-35)	Total/NA	Solid	3050B	
MB 240-594237/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-594237/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 594240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	7471B	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	7471B	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	7471B	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	7471B	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	7471B	

Metals (Continued)

Prep Batch: 594240 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-6	SB-7 (33-35)	Total/NA	Solid	7471B	
MB 240-594240/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-594240/2-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 240-594240/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	

Analysis Batch: 594427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	6010D	594237
240-195065-2	SB-5 (33-35)	Total/NA	Solid	6010D	594237
240-195065-3	SB-6 (0-3)	Total/NA	Solid	6010D	594237
240-195065-4	SB-6 (33-35)	Total/NA	Solid	6010D	594237
240-195065-5	SB-7 (0-3)	Total/NA	Solid	6010D	594237
240-195065-6	SB-7 (33-35)	Total/NA	Solid	6010D	594237
MB 240-594237/1-A	Method Blank	Total/NA	Solid	6010D	594237
LCS 240-594237/2-A	Lab Control Sample	Total/NA	Solid	6010D	594237

Analysis Batch: 594496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	7471B	594240
240-195065-2	SB-5 (33-35)	Total/NA	Solid	7471B	594240
240-195065-3	SB-6 (0-3)	Total/NA	Solid	7471B	594240
240-195065-4	SB-6 (33-35)	Total/NA	Solid	7471B	594240
240-195065-5	SB-7 (0-3)	Total/NA	Solid	7471B	594240
240-195065-6	SB-7 (33-35)	Total/NA	Solid	7471B	594240
MB 240-594240/1-A	Method Blank	Total/NA	Solid	7471B	594240
LCS 240-594240/2-A	Lab Control Sample	Total/NA	Solid	7471B	594240
LCSD 240-594240/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	594240

General Chemistry

Analysis Batch: 594271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195065-1	SB-5 (0-3)	Total/NA	Solid	Moisture	
240-195065-2	SB-5 (33-35)	Total/NA	Solid	Moisture	
240-195065-3	SB-6 (0-3)	Total/NA	Solid	Moisture	
240-195065-4	SB-6 (33-35)	Total/NA	Solid	Moisture	
240-195065-5	SB-7 (0-3)	Total/NA	Solid	Moisture	
240-195065-6	SB-7 (33-35)	Total/NA	Solid	Moisture	
240-195065-4 DU	SB-6 (33-35)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-5 (0-3)
Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-5 (0-3)
Date Collected: 11/08/23 12:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-1
Matrix: Solid
Percent Solids: 81.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 21:38
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 16:21
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 19:04
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 13:45
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:20

Client Sample ID: SB-5 (33-35)
Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-5 (33-35)
Date Collected: 11/08/23 12:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-2
Matrix: Solid
Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 19:38
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 16:45
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 19:20
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 13:49
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:22

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-6 (0-3)
Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-6 (0-3)
Date Collected: 11/08/23 13:30
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-3
Matrix: Solid
Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 20:02
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 17:08
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 19:35
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 13:53
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:24

Client Sample ID: SB-6 (33-35)
Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-6 (33-35)
Date Collected: 11/08/23 13:50
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-4
Matrix: Solid
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 22:02
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 17:32
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 19:50
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 13:58
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:26

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Client Sample ID: SB-7 (0-3)
Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-7 (0-3)
Date Collected: 11/08/23 14:40
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-5
Matrix: Solid
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 22:26
Total/NA	Prep	3546			594331	BV1	EET CLE	11/13/23 08:41
Total/NA	Analysis	8270E		1	594628	LKG	EET CLE	11/15/23 17:55
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 20:05
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 14:02
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:28

Client Sample ID: SB-7 (33-35)
Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594271	RP	EET CLE	11/10/23 16:58

Client Sample ID: SB-7 (33-35)
Date Collected: 11/08/23 15:05
Date Received: 11/09/23 09:50

Lab Sample ID: 240-195065-6
Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594618	CS	EET CLE	11/09/23 17:10
Total/NA	Analysis	8260D		1	594763	CS	EET CLE	11/15/23 22:50
Total/NA	Prep	3546			594489	BV1	EET CLE	11/14/23 08:27
Total/NA	Analysis	8270E		1	594667	JMG	EET CLE	11/15/23 16:21
Total/NA	Prep	3546			405656	DZK8	EET CF	11/10/23 13:25
Total/NA	Analysis	OA-2		1	406178	C3AA	EET CF	11/16/23 20:20
Total/NA	Prep	3050B			594237	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	6010D		1	594427	KLC	EET CLE	11/13/23 14:06
Total/NA	Prep	7471B			594240	DEE	EET CLE	11/10/23 15:00
Total/NA	Analysis	7471B		1	594496	DSH	EET CLE	11/13/23 17:30

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195065-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D	5035	Solid	1,2,4-Trichlorobenzene
8260D	5035	Solid	Cyclohexane
8260D	5035	Solid	Methyl acetate
8260D	5035	Solid	Methylcyclohexane
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-29-23
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

3.0/3.2

eurofins | Environment Testing

Client Information	Sampler: Macy La Mosney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.3
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 3 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days):			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
				Preservation Code:			N	N	N	N	N	N	N		
SB-5(0-3)	11/8/23	1230	G	Solid			X	X	X	X	X	X			
SB-5(33-35)		1250		Solid											
SB-6(0-3)		1330		Solid											
SB-6(33-35)		1350		Solid											
SB-7(0-3)		1440		Solid											
SB-7(33-35)		1505		Solid											
				Solid											No trip blanks provided.
				Solid											
	MLO 11/8/23			Solid											
				Solid											
				Solid											

240-195065 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Macy La Mosney	Date/Time: 11/08/23 1600	Company: Tetra tech	Received by: C. Roan	Date/Time: 11-9-23 9:50	Company: EN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative Login # : _____
Barberton Facility

Client Tetra tech Site Name _____ Cooler unpacked by: Mikoan

Cooler Received on 11-9-23 Opened on 11-9-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # CC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 21 (CF +02 °C) Observed Cooler Temp. 30 °C Corrected Cooler Temp. 32 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No
   - Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   - Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

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240-195065 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: TA Cleveland

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 11-10-23 | TIME 0940 | Received By: MY

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID:

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☐ Yes ☒ No *If yes:* Cooler custody seals intact? ☐ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☒ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☐ Yes ☒ No *If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): | Corrected Temp (°C):

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	Soil Jar 2oz	→
Uncorrected Temp (°C):	1.8	4.1
Corrected Temp (°C):	1.8	4.1

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-176436 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa		Job #: 240-195065-1
Address: 3019 Venture Way, ,	Due Date Requested: 12/4/2023			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	OA2/3546_LVI OA2 Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SB-5 (0-3) (240-195065-1)	11/8/23	12.30 Central		Solid			X	1	
SB-5 (33-35) (240-195065-2)	11/8/23	12:50 Central		Solid			X	1	
SB-6 (0-3) (240-195065-3)	11/8/23	13.30 Central		Solid			X	1	
SB-6 (33-35) (240-195065-4)	11/8/23	13.50 Central		Solid			X	1	
SB-7 (0-3) (240-195065-5)	11/8/23	14.40 Central		Solid			X	1	
SB-7 (33-35) (240-195065-6)	11/8/23	15:05 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:			
Relinquished by: Raquelle Hrcale	Date/Time: 11/9/23 1635	Company: EETNC	Received by: MC	Date/Time: 11-10-23 940	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks:			

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 240-195065-1

Login Number: 195065
List Number: 2
Creator: Costello, Mackenzie K

List Source: Eurofins Cedar Falls
List Creation: 11/10/23 11:48 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/28/2023 1:41:25 PM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195265-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

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11/28/2023 1:41:25 PM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Z	The chromatographic response does not resemble a typical fuel pattern.

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-195265-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195265-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/10/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.7°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 240-594945 recovered above the upper control limit for Bromomethane, Chloromethane and Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) analyzed in batch 240-594945 was outside the method criteria for Chlorobenzene, Chloroform, Ethylbenzene, Ethylene Dibromide, m-Xylene & p-Xylene and o-Xylene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-595108 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: An MS/MSD was prepped and analyzed with analytical batch 240-595108, but was not reported due to the parent sample being reported in another batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594789 recovered above the upper control limit for Atrazine, Hexachlorocyclopentadiene and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SB-8 (0-3) (240-195265-1), SB-8 (33-35) (240-195265-2), SB-9 (0-3) (240-195265-3), SB-9 (29-32) (240-195265-4), SB-10 (0-3) (240-195265-5) and SB-10 (20-23) (240-195265-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6010D: The initial calibration verification low (ICVL) result for batch 240-594619 was above the upper control limit for antimony. Sample results were below the reporting limit, and have been reported. SB-8 (0-3) (240-195265-1), SB-8 (33-35) (240-195265-2), SB-9 (0-3) (240-195265-3), SB-9 (29-32) (240-195265-4), SB-10 (0-3) (240-195265-5) and SB-10 (20-23) (240-195265-6)

Job ID: 240-195265-1 (Continued)

Laboratory: Eurofins Cleveland (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	EET CF
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CF
3546	Microwave Extraction	SW846	EET CLE
5035	Closed System Purge and Trap	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

Iowa DNR = Iowa Department of Natural Resources

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195265-1	SB-8 (0-3)	Solid	11/09/23 09:00	11/10/23 09:50
240-195265-2	SB-8 (33-35)	Solid	11/09/23 09:25	11/10/23 09:50
240-195265-3	SB-9 (0-3)	Solid	11/09/23 10:40	11/10/23 09:50
240-195265-4	SB-9 (29-32)	Solid	11/09/23 11:05	11/10/23 09:50
240-195265-5	SB-10 (0-3)	Solid	11/09/23 11:45	11/10/23 09:50
240-195265-6	SB-10 (20-23)	Solid	11/09/23 12:10	11/10/23 09:50

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3) — Lab Sample ID: 240-195265-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	71.5	J B	192	30.7	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	7.78	J Z	19.0	5.05	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	21300		23.4	6.24	mg/Kg	1	☼	6010D	Total/NA
Arsenic	11.7		1.75	0.370	mg/Kg	1	☼	6010D	Total/NA
Barium	211		23.4	0.424	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.832		0.585	0.0632	mg/Kg	1	☼	6010D	Total/NA
Calcium	4080		585	42.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	22.5		1.17	0.401	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.77		1.17	0.0866	mg/Kg	1	☼	6010D	Total/NA
Copper	18.8		2.92	0.276	mg/Kg	1	☼	6010D	Total/NA
Iron	24900		23.4	8.12	mg/Kg	1	☼	6010D	Total/NA
Lead	14.3		1.17	0.330	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3600		585	17.9	mg/Kg	1	☼	6010D	Total/NA
Manganese	247		1.75	0.303	mg/Kg	1	☼	6010D	Total/NA
Nickel	18.6		4.68	0.580	mg/Kg	1	☼	6010D	Total/NA
Potassium	1020		585	41.8	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.937	J	2.34	0.549	mg/Kg	1	☼	6010D	Total/NA
Vanadium	34.0		5.85	0.962	mg/Kg	1	☼	6010D	Total/NA
Zinc	74.8		5.85	1.60	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0601	J	0.142	0.0255	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-8 (33-35) — Lab Sample ID: 240-195265-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	107	J	170	63.4	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	61.1	J B	170	27.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	5670		20.9	5.58	mg/Kg	1	☼	6010D	Total/NA
Arsenic	3.75		1.57	0.331	mg/Kg	1	☼	6010D	Total/NA
Barium	42.1		20.9	0.379	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.342	J	0.523	0.0565	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.194	J	0.523	0.0503	mg/Kg	1	☼	6010D	Total/NA
Calcium	26000		523	38.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	18.9		1.05	0.359	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.82		1.05	0.0775	mg/Kg	1	☼	6010D	Total/NA
Copper	11.2		2.62	0.247	mg/Kg	1	☼	6010D	Total/NA
Iron	12100		20.9	7.27	mg/Kg	1	☼	6010D	Total/NA
Lead	5.43		1.05	0.295	mg/Kg	1	☼	6010D	Total/NA
Magnesium	8210		523	16.0	mg/Kg	1	☼	6010D	Total/NA
Manganese	208		1.57	0.271	mg/Kg	1	☼	6010D	Total/NA
Nickel	22.3		4.19	0.519	mg/Kg	1	☼	6010D	Total/NA
Potassium	825		523	37.4	mg/Kg	1	☼	6010D	Total/NA
Vanadium	20.0		5.23	0.861	mg/Kg	1	☼	6010D	Total/NA
Zinc	32.2		5.23	1.43	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: SB-9 (0-3) — Lab Sample ID: 240-195265-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	72.2	J B	197	31.5	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	8.87	J Z	19.4	5.16	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	20200		26.5	7.06	mg/Kg	1	☼	6010D	Total/NA
Arsenic	9.39		1.99	0.418	mg/Kg	1	☼	6010D	Total/NA
Barium	235		26.5	0.479	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3) (Continued) — Lab Sample ID: 240-195265-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.924		0.662	0.0715	mg/Kg	1	☼	6010D	Total/NA
Calcium	3200		662	48.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	20.7		1.32	0.454	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.95		1.32	0.0980	mg/Kg	1	☼	6010D	Total/NA
Copper	18.6		3.31	0.312	mg/Kg	1	☼	6010D	Total/NA
Iron	22500		26.5	9.19	mg/Kg	1	☼	6010D	Total/NA
Lead	12.3		1.32	0.373	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3430		662	20.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	453		1.99	0.343	mg/Kg	1	☼	6010D	Total/NA
Nickel	24.3		5.30	0.657	mg/Kg	1	☼	6010D	Total/NA
Potassium	1020		662	47.3	mg/Kg	1	☼	6010D	Total/NA
Vanadium	30.1		6.62	1.09	mg/Kg	1	☼	6010D	Total/NA
Zinc	75.4		6.62	1.81	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0542	J	0.139	0.0251	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-9 (29-32) — Lab Sample ID: 240-195265-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	61.0	J B	170	27.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	4770		20.0	5.34	mg/Kg	1	☼	6010D	Total/NA
Arsenic	4.29		1.50	0.316	mg/Kg	1	☼	6010D	Total/NA
Barium	61.3		20.0	0.362	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.373	J	0.501	0.0541	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.128	J	0.501	0.0481	mg/Kg	1	☼	6010D	Total/NA
Calcium	19900		501	36.5	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.2		1.00	0.343	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.69		1.00	0.0741	mg/Kg	1	☼	6010D	Total/NA
Copper	9.89		2.50	0.236	mg/Kg	1	☼	6010D	Total/NA
Iron	13100		20.0	6.95	mg/Kg	1	☼	6010D	Total/NA
Lead	6.50		1.00	0.282	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4400		501	15.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	280		1.50	0.259	mg/Kg	1	☼	6010D	Total/NA
Nickel	18.4		4.01	0.497	mg/Kg	1	☼	6010D	Total/NA
Potassium	760		501	35.8	mg/Kg	1	☼	6010D	Total/NA
Vanadium	18.9		5.01	0.823	mg/Kg	1	☼	6010D	Total/NA
Zinc	31.0		5.01	1.37	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: SB-10 (0-3) — Lab Sample ID: 240-195265-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	113	J	188	70.3	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	70.9	J B	188	30.1	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	7.60	J Z	18.2	4.85	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	19600		21.9	5.84	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.408	J ^1+	2.19	0.393	mg/Kg	1	☼	6010D	Total/NA
Arsenic	8.99		1.64	0.346	mg/Kg	1	☼	6010D	Total/NA
Barium	321		21.9	0.396	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.764		0.548	0.0591	mg/Kg	1	☼	6010D	Total/NA
Calcium	4120		548	39.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	21.4		1.10	0.376	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.29		1.10	0.0810	mg/Kg	1	☼	6010D	Total/NA
Copper	17.3		2.74	0.258	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (0-3) (Continued) — Lab Sample ID: 240-195265-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	23000		21.9	7.60	mg/Kg	1	☼	6010D	Total/NA
Lead	9.38		1.10	0.309	mg/Kg	1	☼	6010D	Total/NA
Magnesium	3510		548	16.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	256		1.64	0.284	mg/Kg	1	☼	6010D	Total/NA
Nickel	19.1		4.38	0.543	mg/Kg	1	☼	6010D	Total/NA
Potassium	1000		548	39.2	mg/Kg	1	☼	6010D	Total/NA
Vanadium	30.4		5.48	0.900	mg/Kg	1	☼	6010D	Total/NA
Zinc	66.3		5.48	1.50	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0504	J	0.136	0.0245	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SB-10 (20-23) — Lab Sample ID: 240-195265-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	70.9	J B	172	27.6	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7140		18.9	5.04	mg/Kg	1	☼	6010D	Total/NA
Arsenic	4.49		1.42	0.298	mg/Kg	1	☼	6010D	Total/NA
Barium	128		18.9	0.342	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.395	J	0.472	0.0510	mg/Kg	1	☼	6010D	Total/NA
Calcium	2170		472	34.4	mg/Kg	1	☼	6010D	Total/NA
Chromium	13.0		0.945	0.324	mg/Kg	1	☼	6010D	Total/NA
Cobalt	12.5		0.945	0.0699	mg/Kg	1	☼	6010D	Total/NA
Copper	8.08		2.36	0.223	mg/Kg	1	☼	6010D	Total/NA
Iron	12400		18.9	6.56	mg/Kg	1	☼	6010D	Total/NA
Lead	11.2		0.945	0.266	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1590		472	14.4	mg/Kg	1	☼	6010D	Total/NA
Manganese	286		1.42	0.245	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.3		3.78	0.469	mg/Kg	1	☼	6010D	Total/NA
Potassium	527		472	33.8	mg/Kg	1	☼	6010D	Total/NA
Vanadium	14.8		4.72	0.776	mg/Kg	1	☼	6010D	Total/NA
Zinc	24.0		4.72	1.29	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.145		0.112	0.0202	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3)

Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1

Matrix: Solid
Percent Solids: 78.4

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		23.7	19.9	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Benzene	ND		4.75	0.663	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Bromoform	ND		4.75	2.28	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Bromomethane	ND		4.75	3.94	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
2-Butanone (MEK)	ND		19.0	3.37	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Carbon disulfide	ND		4.75	1.10	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Carbon tetrachloride	ND		4.75	3.09	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Chlorobenzene	ND	*-	4.75	0.870	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Chlorodibromomethane	ND		4.75	2.64	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Chloroethane	ND		4.75	2.60	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Chloroform	ND	*-	4.75	0.748	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Chloromethane	ND		4.75	2.16	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
cis-1,2-Dichloroethene	ND		4.75	1.41	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
cis-1,3-Dichloropropene	ND		4.75	2.73	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Cyclohexane	ND		9.49	1.31	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,2-Dibromo-3-Chloropropane	ND		9.49	3.42	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,2-Dichlorobenzene	ND		4.75	1.06	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,3-Dichlorobenzene	ND		4.75	1.56	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,4-Dichlorobenzene	ND		4.75	0.837	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Dichlorobromomethane	ND		4.75	1.42	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Dichlorodifluoromethane	ND		4.75	2.15	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1-Dichloroethane	ND		4.75	1.34	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,2-Dichloroethane	ND		4.75	1.71	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1-Dichloroethene	ND		4.75	1.73	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,2-Dichloropropane	ND		4.75	0.808	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Ethylbenzene	ND	*-	4.75	0.994	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Ethylene Dibromide	ND	*-	4.75	0.731	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
2-Hexanone	ND		19.0	3.88	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Isopropylbenzene	ND		4.75	1.82	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Methyl acetate	ND		23.7	3.23	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Methylcyclohexane	ND		9.49	1.16	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Methylene Chloride	ND		23.7	11.4	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
4-Methyl-2-pentanone (MIBK)	ND		19.0	3.52	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Methyl tert-butyl ether	ND		4.75	1.88	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Styrene	ND		4.75	1.10	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1,2,2-Tetrachloroethane	ND		4.75	1.36	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Tetrachloroethene	ND		4.75	3.69	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Toluene	ND		4.75	0.734	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
trans-1,2-Dichloroethene	ND		4.75	1.35	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
trans-1,3-Dichloropropene	ND		4.75	3.52	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,2,4-Trichlorobenzene	ND		4.75	2.37	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1,1-Trichloroethane	ND		4.75	1.68	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1,2-Trichloroethane	ND		4.75	1.07	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Trichloroethene	ND		4.75	1.36	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Trichlorofluoromethane	ND		4.75	2.55	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.75	1.22	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Vinyl chloride	ND		4.75	1.68	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1
Xylenes, Total	ND	*-	9.49	1.51	ug/Kg	☼	11/11/23 08:20	11/17/23 05:29	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3)

Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1

Matrix: Solid
Percent Solids: 78.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*	*11/11/23 08:20*	*11/17/23 05:29*	*1*
Dibromofluoromethane (Surr)	*88*		*41 - 138*	*11/11/23 08:20*	*11/17/23 05:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*58 - 125*	*11/11/23 08:20*	*11/17/23 05:29*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 08:20*	*11/17/23 05:29*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Acenaphthylene	ND		51.2	19.2	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Acetophenone	ND		128	32.0	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Anthracene	ND		51.2	15.4	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Atrazine	ND		422	88.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzaldehyde	ND		422	71.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzo[a]anthracene	ND		51.2	19.2	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzo[a]pyrene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzo[b]fluoranthene	ND		51.2	15.4	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzo[g,h,i]perylene	ND		51.2	34.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Benzo[k]fluoranthene	ND		51.2	12.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
1,1'-Biphenyl	ND		128	35.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Bis(2-chloroethoxy)methane	ND		128	25.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Bis(2-chloroethyl)ether	ND		128	28.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
bis (2-chloroisopropyl) ether	ND		128	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Bis(2-ethylhexyl) phthalate	ND		192	71.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Bromophenyl phenyl ether	ND		128	40.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Butyl benzyl phthalate	ND		192	65.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Caprolactam	ND		422	88.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Carbazole	ND		128	34.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Chloroaniline	ND		192	20.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Chloro-3-methylphenol	ND		192	48.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Chloronaphthalene	ND		128	35.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Chlorophenol	ND		128	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Chlorophenyl phenyl ether	ND		128	35.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Chrysene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Dibenz(a,h)anthracene	ND		51.2	19.2	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Dibenzofuran	ND		128	37.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
3,3'-Dichlorobenzidine	ND		192	122	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4-Dichlorophenol	ND		192	34.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Diethyl phthalate	ND		192	55.0	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4-Dimethylphenol	ND		192	46.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Dimethyl phthalate	ND		192	51.2	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Di-n-butyl phthalate	**71.5**	**J B**	192	30.7	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4,6-Dinitro-2-methylphenol	ND		422	133	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4-Dinitrophenol	ND		422	219	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4-Dinitrotoluene	ND		256	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,6-Dinitrotoluene	ND		256	46.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Di-n-octyl phthalate	ND		192	64.0	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Fluoranthene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Fluorene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Hexachlorobenzene	ND		51.2	17.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Hexachlorobutadiene	ND		128	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3)

Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1

Matrix: Solid
Percent Solids: 78.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		422	49.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Hexachloroethane	ND		128	40.9	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Indeno[1,2,3-cd]pyrene	ND		51.2	15.4	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Isophorone	ND		128	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Methylnaphthalene	ND		51.2	16.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Methylphenol	ND		256	52.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
3 & 4 Methylphenol	ND		512	52.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Naphthalene	ND		51.2	16.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Nitroaniline	ND		256	48.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
3-Nitroaniline	ND		256	44.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Nitroaniline	ND		256	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Nitrobenzene	ND		128	28.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2-Nitrophenol	ND		128	44.8	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
4-Nitrophenol	ND		422	115	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
N-Nitrosodi-n-propylamine	ND		128	47.3	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
N-Nitrosodiphenylamine	ND		128	34.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Pentachlorophenol	ND		345	134	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Phenanthrene	ND		51.2	16.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Phenol	ND		128	48.6	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
Pyrene	ND		51.2	20.5	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4,5-Trichlorophenol	ND		192	42.2	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1
2,4,6-Trichlorophenol	ND		192	37.1	ug/Kg	☼	11/15/23 08:00	11/16/23 11:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*34 - 120*	*11/15/23 08:00*	*11/16/23 11:44*	*1*
2-Fluorophenol (Surr)	*69*		*20 - 120*	*11/15/23 08:00*	*11/16/23 11:44*	*1*
Nitrobenzene-d5 (Surr)	*67*		*25 - 120*	*11/15/23 08:00*	*11/16/23 11:44*	*1*
Phenol-d5 (Surr)	*71*		*26 - 120*	*11/15/23 08:00*	*11/16/23 11:44*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 137*	*11/15/23 08:00*	*11/16/23 11:44*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*10 - 120*	*11/15/23 08:00*	*11/16/23 11:44*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12.7	9.50	mg/Kg	☼	11/22/23 08:57	11/27/23 20:43	1
Diesel	ND		12.7	5.05	mg/Kg	☼	11/22/23 08:57	11/27/23 20:43	1
Waste Oil	ND		12.7	2.58	mg/Kg	☼	11/22/23 08:57	11/27/23 20:43	1
Total Extractable Hydrocarbons	**7.78**	**J Z**	19.0	5.05	mg/Kg	☼	11/22/23 08:57	11/27/23 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*82*		*12 - 126*	*11/22/23 08:57*	*11/27/23 20:43*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**21300**		23.4	6.24	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Antimony	ND	^1+	2.34	0.420	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Arsenic	**11.7**		1.75	0.370	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Barium	**211**		23.4	0.424	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Beryllium	**0.832**		0.585	0.0632	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Cadmium	ND		0.585	0.0562	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Calcium	**4080**		585	42.6	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3)

Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1

Matrix: Solid
Percent Solids: 78.4

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	22.5		1.17	0.401	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Cobalt	5.77		1.17	0.0866	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Copper	18.8		2.92	0.276	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Iron	24900		23.4	8.12	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Lead	14.3		1.17	0.330	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Magnesium	3600		585	17.9	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Manganese	247		1.75	0.303	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Nickel	18.6		4.68	0.580	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Potassium	1020		585	41.8	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Selenium	0.937	J	2.34	0.549	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Silver	ND		1.17	0.0948	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Sodium	ND		585	166	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Thallium	ND		2.34	0.467	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Vanadium	34.0		5.85	0.962	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1
Zinc	74.8		5.85	1.60	mg/Kg	☼	11/13/23 15:00	11/14/23 21:19	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0601	J	0.142	0.0255	mg/Kg	☼	11/13/23 15:00	11/14/23 10:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	78.4		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	21.6		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (33-35)

Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2

Matrix: Solid
Percent Solids: 88.4

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.9	15.1	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Benzene	ND		3.59	0.501	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Bromoform	ND		3.59	1.72	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Bromomethane	ND		3.59	2.98	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
2-Butanone (MEK)	ND		14.4	2.55	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Carbon disulfide	ND		3.59	0.835	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Carbon tetrachloride	ND		3.59	2.33	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Chlorobenzene	ND	*-	3.59	0.657	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Chlorodibromomethane	ND		3.59	2.00	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Chloroethane	ND		3.59	1.97	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Chloroform	ND	*-	3.59	0.566	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Chloromethane	ND		3.59	1.64	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
cis-1,2-Dichloroethene	ND		3.59	1.06	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
cis-1,3-Dichloropropene	ND		3.59	2.07	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Cyclohexane	ND		7.18	0.987	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,2-Dibromo-3-Chloropropane	ND		7.18	2.59	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,2-Dichlorobenzene	ND		3.59	0.798	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,3-Dichlorobenzene	ND		3.59	1.18	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,4-Dichlorobenzene	ND		3.59	0.633	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Dichlorobromomethane	ND		3.59	1.08	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Dichlorodifluoromethane	ND		3.59	1.62	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1-Dichloroethane	ND		3.59	1.02	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,2-Dichloroethane	ND		3.59	1.29	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1-Dichloroethene	ND		3.59	1.31	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,2-Dichloropropane	ND		3.59	0.611	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Ethylbenzene	ND	*-	3.59	0.751	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Ethylene Dibromide	ND	*-	3.59	0.553	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
2-Hexanone	ND		14.4	2.93	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Isopropylbenzene	ND		3.59	1.38	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Methyl acetate	ND		17.9	2.44	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Methylcyclohexane	ND		7.18	0.881	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Methylene Chloride	ND		17.9	8.61	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
4-Methyl-2-pentanone (MIBK)	ND		14.4	2.67	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Methyl tert-butyl ether	ND		3.59	1.42	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Styrene	ND		3.59	0.831	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1,2,2-Tetrachloroethane	ND		3.59	1.03	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Tetrachloroethene	ND		3.59	2.79	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Toluene	ND		3.59	0.555	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
trans-1,2-Dichloroethene	ND		3.59	1.02	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
trans-1,3-Dichloropropene	ND		3.59	2.66	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,2,4-Trichlorobenzene	ND		3.59	1.79	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1,1-Trichloroethane	ND		3.59	1.27	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1,2-Trichloroethane	ND		3.59	0.812	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Trichloroethene	ND		3.59	1.03	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Trichlorofluoromethane	ND		3.59	1.93	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.59	0.920	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Vinyl chloride	ND		3.59	1.27	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1
Xylenes, Total	ND	*-	7.18	1.14	ug/Kg	☼	11/11/23 08:20	11/17/23 05:53	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (33-35)

Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2

Matrix: Solid
Percent Solids: 88.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/11/23 08:20*	*11/17/23 05:53*	*1*
Dibromofluoromethane (Surr)	*90*		*41 - 138*	*11/11/23 08:20*	*11/17/23 05:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*58 - 125*	*11/11/23 08:20*	*11/17/23 05:53*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 08:20*	*11/17/23 05:53*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Acenaphthylene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Acetophenone	ND		113	28.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Anthracene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Atrazine	ND		374	78.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzaldehyde	ND		374	63.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzo[a]anthracene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzo[a]pyrene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzo[b]fluoranthene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzo[g,h,i]perylene	ND		45.3	30.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Benzo[k]fluoranthene	ND		45.3	11.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
1,1'-Biphenyl	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Bis(2-chloroethoxy)methane	ND		113	22.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Bis(2-chloroethyl)ether	ND		113	24.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
bis (2-chloroisopropyl) ether	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Bis(2-ethylhexyl) phthalate	**107**	**J**	170	63.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Bromophenyl phenyl ether	ND		113	36.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Butyl benzyl phthalate	ND		170	57.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Caprolactam	ND		374	78.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Carbazole	ND		113	30.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Chloroaniline	ND		170	18.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Chloro-3-methylphenol	ND		170	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Chloronaphthalene	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Chlorophenol	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Chlorophenyl phenyl ether	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Chrysene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Dibenz(a,h)anthracene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Dibenzofuran	ND		113	32.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
3,3'-Dichlorobenzidine	ND		170	108	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4-Dichlorophenol	ND		170	30.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Diethyl phthalate	ND		170	48.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4-Dimethylphenol	ND		170	40.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Dimethyl phthalate	ND		170	45.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Di-n-butyl phthalate	**61.1**	**J B**	170	27.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4,6-Dinitro-2-methylphenol	ND		374	118	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4-Dinitrophenol	ND		374	194	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4-Dinitrotoluene	ND		226	26.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,6-Dinitrotoluene	ND		226	40.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Di-n-octyl phthalate	ND		170	56.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Fluoranthene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Fluorene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Hexachlorobenzene	ND		45.3	15.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Hexachlorobutadiene	ND		113	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (33-35)

Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2

Matrix: Solid
Percent Solids: 88.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		374	44.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Hexachloroethane	ND		113	36.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Indeno[1,2,3-cd]pyrene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Isophorone	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Methylnaphthalene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Methylphenol	ND		226	46.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
3 & 4 Methylphenol	ND		453	46.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Naphthalene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Nitroaniline	ND		226	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
3-Nitroaniline	ND		226	39.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Nitroaniline	ND		226	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Nitrobenzene	ND		113	24.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2-Nitrophenol	ND		113	39.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
4-Nitrophenol	ND		374	102	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
N-Nitrosodi-n-propylamine	ND		113	41.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
N-Nitrosodiphenylamine	ND		113	30.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Pentachlorophenol	ND		306	119	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Phenanthrene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Phenol	ND		113	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
Pyrene	ND		45.3	18.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4,5-Trichlorophenol	ND		170	37.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1
2,4,6-Trichlorophenol	ND		170	32.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*58*		*34 - 120*	*11/15/23 08:00*	*11/16/23 12:08*	*1*
2-Fluorophenol (Surr)	*61*		*20 - 120*	*11/15/23 08:00*	*11/16/23 12:08*	*1*
Nitrobenzene-d5 (Surr)	*59*		*25 - 120*	*11/15/23 08:00*	*11/16/23 12:08*	*1*
Phenol-d5 (Surr)	*62*		*26 - 120*	*11/15/23 08:00*	*11/16/23 12:08*	*1*
Terphenyl-d14 (Surr)	*64*		*46 - 137*	*11/15/23 08:00*	*11/16/23 12:08*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*10 - 120*	*11/15/23 08:00*	*11/16/23 12:08*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.0	8.28	mg/Kg	☼	11/22/23 08:57	11/27/23 20:58	1
Diesel	ND		11.0	4.41	mg/Kg	☼	11/22/23 08:57	11/27/23 20:58	1
Waste Oil	ND		11.0	2.25	mg/Kg	☼	11/22/23 08:57	11/27/23 20:58	1
Total Extractable Hydrocarbons	ND		16.6	4.41	mg/Kg	☼	11/22/23 08:57	11/27/23 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*12 - 126*	*11/22/23 08:57*	*11/27/23 20:58*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5670**		20.9	5.58	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Antimony	ND	^1+	2.09	0.376	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Arsenic	**3.75**		1.57	0.331	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Barium	**42.1**		20.9	0.379	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Beryllium	**0.342**	**J**	0.523	0.0565	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Cadmium	**0.194**	**J**	0.523	0.0503	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Calcium	**26000**		523	38.2	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (33-35)

Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2

Matrix: Solid
Percent Solids: 88.4

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**18.9**		1.05	0.359	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Cobalt	**7.82**		1.05	0.0775	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Copper	**11.2**		2.62	0.247	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Iron	**12100**		20.9	7.27	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Lead	**5.43**		1.05	0.295	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Magnesium	**8210**		523	16.0	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Manganese	**208**		1.57	0.271	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Nickel	**22.3**		4.19	0.519	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Potassium	**825**		523	37.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Selenium	ND		2.09	0.491	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Silver	ND		1.05	0.0848	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Sodium	ND		523	149	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Thallium	ND		2.09	0.418	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Vanadium	**20.0**		5.23	0.861	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1
Zinc	**32.2**		5.23	1.43	mg/Kg	☼	11/13/23 15:00	11/14/23 21:31	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.117	0.0211	mg/Kg	☼	11/13/23 15:00	11/14/23 10:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	**88.4**		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	**11.6**		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3)

Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3

Matrix: Solid
Percent Solids: 75.5

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		22.4	18.8	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Benzene	ND		4.48	0.625	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Bromoform	ND		4.48	2.15	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Bromomethane	ND		4.48	3.71	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
2-Butanone (MEK)	ND		17.9	3.18	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Carbon disulfide	ND		4.48	1.04	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Carbon tetrachloride	ND		4.48	2.91	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Chlorobenzene	ND	*-	4.48	0.820	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Chlorodibromomethane	ND		4.48	2.49	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Chloroethane	ND		4.48	2.45	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Chloroform	ND	*-	4.48	0.705	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Chloromethane	ND		4.48	2.04	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
cis-1,2-Dichloroethene	ND		4.48	1.32	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
cis-1,3-Dichloropropene	ND		4.48	2.58	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Cyclohexane	ND		8.95	1.23	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,2-Dibromo-3-Chloropropane	ND		8.95	3.23	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,2-Dichlorobenzene	ND		4.48	0.995	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,3-Dichlorobenzene	ND		4.48	1.48	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,4-Dichlorobenzene	ND		4.48	0.790	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Dichlorobromomethane	ND		4.48	1.34	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Dichlorodifluoromethane	ND		4.48	2.02	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1-Dichloroethane	ND		4.48	1.27	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,2-Dichloroethane	ND		4.48	1.61	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1-Dichloroethene	ND		4.48	1.63	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,2-Dichloropropane	ND		4.48	0.762	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Ethylbenzene	ND	*-	4.48	0.937	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Ethylene Dibromide	ND	*-	4.48	0.689	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
2-Hexanone	ND		17.9	3.66	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Isopropylbenzene	ND		4.48	1.72	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Methyl acetate	ND		22.4	3.04	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Methylcyclohexane	ND		8.95	1.10	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Methylene Chloride	ND		22.4	10.7	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
4-Methyl-2-pentanone (MIBK)	ND		17.9	3.32	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Methyl tert-butyl ether	ND		4.48	1.77	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Styrene	ND		4.48	1.04	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1,2,2-Tetrachloroethane	ND		4.48	1.28	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Tetrachloroethene	ND		4.48	3.48	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Toluene	ND		4.48	0.692	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
trans-1,2-Dichloroethene	ND		4.48	1.27	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
trans-1,3-Dichloropropene	ND		4.48	3.32	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,2,4-Trichlorobenzene	ND		4.48	2.24	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1,1-Trichloroethane	ND		4.48	1.58	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1,2-Trichloroethane	ND		4.48	1.01	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Trichloroethene	ND		4.48	1.28	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Trichlorofluoromethane	ND		4.48	2.41	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.48	1.15	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Vinyl chloride	ND		4.48	1.58	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1
Xylenes, Total	ND	*-	8.95	1.42	ug/Kg	☼	11/11/23 08:20	11/17/23 06:17	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3)

Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3

Matrix: Solid
Percent Solids: 75.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/11/23 08:20*	*11/17/23 06:17*	*1*
Dibromofluoromethane (Surr)	*89*		*41 - 138*	*11/11/23 08:20*	*11/17/23 06:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*58 - 125*	*11/11/23 08:20*	*11/17/23 06:17*	*1*
Toluene-d8 (Surr)	*109*		*56 - 125*	*11/11/23 08:20*	*11/17/23 06:17*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Acenaphthylene	ND		52.4	19.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Acetophenone	ND		131	32.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Anthracene	ND		52.4	15.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Atrazine	ND		433	90.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzaldehyde	ND		433	73.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzo[a]anthracene	ND		52.4	19.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzo[a]pyrene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzo[b]fluoranthene	ND		52.4	15.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzo[g,h,i]perylene	ND		52.4	35.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Benzo[k]fluoranthene	ND		52.4	13.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
1,1'-Biphenyl	ND		131	36.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Bis(2-chloroethoxy)methane	ND		131	26.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Bis(2-chloroethyl)ether	ND		131	28.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
bis (2-chloroisopropyl) ether	ND		131	34.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Bis(2-ethylhexyl) phthalate	ND		197	73.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Bromophenyl phenyl ether	ND		131	41.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Butyl benzyl phthalate	ND		197	66.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Caprolactam	ND		433	90.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Carbazole	ND		131	35.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Chloroaniline	ND		197	21.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Chloro-3-methylphenol	ND		197	49.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Chloronaphthalene	ND		131	36.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Chlorophenol	ND		131	34.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Chlorophenyl phenyl ether	ND		131	36.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Chrysene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Dibenz(a,h)anthracene	ND		52.4	19.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Dibenzofuran	ND		131	38.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
3,3'-Dichlorobenzidine	ND		197	125	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4-Dichlorophenol	ND		197	35.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Diethyl phthalate	ND		197	56.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4-Dimethylphenol	ND		197	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Dimethyl phthalate	ND		197	52.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Di-n-butyl phthalate	**72.2**	**J B**	197	31.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4,6-Dinitro-2-methylphenol	ND		433	136	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4-Dinitrophenol	ND		433	224	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4-Dinitrotoluene	ND		262	30.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,6-Dinitrotoluene	ND		262	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Di-n-octyl phthalate	ND		197	65.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Fluoranthene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Fluorene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Hexachlorobenzene	ND		52.4	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Hexachlorobutadiene	ND		131	27.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3)

Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3

Matrix: Solid
Percent Solids: 75.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		433	51.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Hexachloroethane	ND		131	41.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Indeno[1,2,3-cd]pyrene	ND		52.4	15.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Isophorone	ND		131	34.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Methylnaphthalene	ND		52.4	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Methylphenol	ND		262	53.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
3 & 4 Methylphenol	ND		524	53.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Naphthalene	ND		52.4	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Nitroaniline	ND		262	49.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
3-Nitroaniline	ND		262	45.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Nitroaniline	ND		262	34.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Nitrobenzene	ND		131	28.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2-Nitrophenol	ND		131	45.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
4-Nitrophenol	ND		433	118	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
N-Nitrosodi-n-propylamine	ND		131	48.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
N-Nitrosodiphenylamine	ND		131	35.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Pentachlorophenol	ND		354	138	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Phenanthrene	ND		52.4	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Phenol	ND		131	49.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
Pyrene	ND		52.4	21.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4,5-Trichlorophenol	ND		197	43.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1
2,4,6-Trichlorophenol	ND		197	38.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*66*		*34 - 120*	*11/15/23 08:00*	*11/16/23 12:32*	*1*
2-Fluorophenol (Surr)	*69*		*20 - 120*	*11/15/23 08:00*	*11/16/23 12:32*	*1*
Nitrobenzene-d5 (Surr)	*65*		*25 - 120*	*11/15/23 08:00*	*11/16/23 12:32*	*1*
Phenol-d5 (Surr)	*70*		*26 - 120*	*11/15/23 08:00*	*11/16/23 12:32*	*1*
Terphenyl-d14 (Surr)	*73*		*46 - 137*	*11/15/23 08:00*	*11/16/23 12:32*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*10 - 120*	*11/15/23 08:00*	*11/16/23 12:32*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12.9	9.71	mg/Kg	☼	11/22/23 08:57	11/27/23 21:12	1
Diesel	ND		12.9	5.16	mg/Kg	☼	11/22/23 08:57	11/27/23 21:12	1
Waste Oil	ND		12.9	2.64	mg/Kg	☼	11/22/23 08:57	11/27/23 21:12	1
Total Extractable Hydrocarbons	**8.87**	**J Z**	19.4	5.16	mg/Kg	☼	11/22/23 08:57	11/27/23 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*12 - 126*	*11/22/23 08:57*	*11/27/23 21:12*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**20200**		26.5	7.06	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Antimony	ND	^1+	2.65	0.475	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Arsenic	**9.39**		1.99	0.418	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Barium	**235**		26.5	0.479	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Beryllium	**0.924**		0.662	0.0715	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Cadmium	ND		0.662	0.0635	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Calcium	**3200**		662	48.3	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3)

Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3

Matrix: Solid
Percent Solids: 75.5

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	20.7		1.32	0.454	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Cobalt	7.95		1.32	0.0980	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Copper	18.6		3.31	0.312	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Iron	22500		26.5	9.19	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Lead	12.3		1.32	0.373	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Magnesium	3430		662	20.2	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Manganese	453		1.99	0.343	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Nickel	24.3		5.30	0.657	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Potassium	1020		662	47.3	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Selenium	ND		2.65	0.621	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Silver	ND		1.32	0.107	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Sodium	ND		662	188	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Thallium	ND		2.65	0.528	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Vanadium	30.1		6.62	1.09	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1
Zinc	75.4		6.62	1.81	mg/Kg	☼	11/13/23 15:00	11/14/23 21:36	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0542	J	0.139	0.0251	mg/Kg	☼	11/13/23 15:00	11/14/23 10:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	75.5		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	24.5		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (29-32)

Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4

Matrix: Solid
Percent Solids: 89.2

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		17.8	14.9	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Benzene	ND		3.56	0.496	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Bromoform	ND		3.56	1.71	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Bromomethane	ND		3.56	2.95	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
2-Butanone (MEK)	ND		14.2	2.53	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Carbon disulfide	ND		3.56	0.827	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Carbon tetrachloride	ND		3.56	2.31	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Chlorobenzene	ND	*-	3.56	0.651	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Chlorodibromomethane	ND		3.56	1.98	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Chloroethane	ND		3.56	1.95	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Chloroform	ND	*-	3.56	0.560	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Chloromethane	ND		3.56	1.62	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
cis-1,2-Dichloroethene	ND		3.56	1.05	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
cis-1,3-Dichloropropene	ND		3.56	2.05	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Cyclohexane	ND		7.11	0.978	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,2-Dibromo-3-Chloropropane	ND		7.11	2.56	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,2-Dichlorobenzene	ND		3.56	0.791	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,3-Dichlorobenzene	ND		3.56	1.17	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,4-Dichlorobenzene	ND		3.56	0.627	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Dichlorobromomethane	ND		3.56	1.07	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Dichlorodifluoromethane	ND		3.56	1.61	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1-Dichloroethane	ND		3.56	1.01	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,2-Dichloroethane	ND		3.56	1.28	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1-Dichloroethene	ND		3.56	1.29	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,2-Dichloropropane	ND		3.56	0.605	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Ethylbenzene	ND	*-	3.56	0.745	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Ethylene Dibromide	ND	*-	3.56	0.548	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
2-Hexanone	ND		14.2	2.90	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Isopropylbenzene	ND		3.56	1.37	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Methyl acetate	ND		17.8	2.42	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Methylcyclohexane	ND		7.11	0.873	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Methylene Chloride	ND		17.8	8.53	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
4-Methyl-2-pentanone (MIBK)	ND		14.2	2.64	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Methyl tert-butyl ether	ND		3.56	1.41	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Styrene	ND		3.56	0.824	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1,2,2-Tetrachloroethane	ND		3.56	1.02	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Tetrachloroethene	ND		3.56	2.76	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Toluene	ND		3.56	0.550	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
trans-1,2-Dichloroethene	ND		3.56	1.01	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
trans-1,3-Dichloropropene	ND		3.56	2.64	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,2,4-Trichlorobenzene	ND		3.56	1.78	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1,1-Trichloroethane	ND		3.56	1.26	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1,2-Trichloroethane	ND		3.56	0.805	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Trichloroethene	ND		3.56	1.02	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Trichlorofluoromethane	ND		3.56	1.91	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.56	0.912	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Vinyl chloride	ND		3.56	1.26	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1
Xylenes, Total	ND	*-	7.11	1.13	ug/Kg	☼	11/11/23 08:20	11/17/23 06:41	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (29-32)

Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4

Matrix: Solid
Percent Solids: 89.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/11/23 08:20*	*11/17/23 06:41*	*1*
Dibromofluoromethane (Surr)	*88*		*41 - 138*	*11/11/23 08:20*	*11/17/23 06:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*58 - 125*	*11/11/23 08:20*	*11/17/23 06:41*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/11/23 08:20*	*11/17/23 06:41*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Acenaphthylene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Acetophenone	ND		113	28.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Anthracene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Atrazine	ND		373	78.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzaldehyde	ND		373	63.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzo[a]anthracene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzo[a]pyrene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzo[b]fluoranthene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzo[g,h,i]perylene	ND		45.3	30.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Benzo[k]fluoranthene	ND		45.3	11.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
1,1'-Biphenyl	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Bis(2-chloroethoxy)methane	ND		113	22.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Bis(2-chloroethyl)ether	ND		113	24.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
bis (2-chloroisopropyl) ether	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Bis(2-ethylhexyl) phthalate	ND		170	63.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Bromophenyl phenyl ether	ND		113	36.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Butyl benzyl phthalate	ND		170	57.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Caprolactam	ND		373	78.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Carbazole	ND		113	30.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Chloroaniline	ND		170	18.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Chloro-3-methylphenol	ND		170	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Chloronaphthalene	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Chlorophenol	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Chlorophenyl phenyl ether	ND		113	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Chrysene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Dibenz(a,h)anthracene	ND		45.3	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Dibenzofuran	ND		113	32.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
3,3'-Dichlorobenzidine	ND		170	107	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4-Dichlorophenol	ND		170	30.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Diethyl phthalate	ND		170	48.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4-Dimethylphenol	ND		170	40.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Dimethyl phthalate	ND		170	45.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Di-n-butyl phthalate	**61.0**	**J B**	170	27.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4,6-Dinitro-2-methylphenol	ND		373	118	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4-Dinitrophenol	ND		373	193	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4-Dinitrotoluene	ND		226	26.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,6-Dinitrotoluene	ND		226	40.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Di-n-octyl phthalate	ND		170	56.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Fluoranthene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Fluorene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Hexachlorobenzene	ND		45.3	15.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Hexachlorobutadiene	ND		113	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (29-32)

Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4

Matrix: Solid
Percent Solids: 89.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		373	44.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Hexachloroethane	ND		113	36.2	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Indeno[1,2,3-cd]pyrene	ND		45.3	13.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Isophorone	ND		113	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Methylnaphthalene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Methylphenol	ND		226	46.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
3 & 4 Methylphenol	ND		453	46.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Naphthalene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Nitroaniline	ND		226	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
3-Nitroaniline	ND		226	39.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Nitroaniline	ND		226	29.4	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Nitrobenzene	ND		113	24.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2-Nitrophenol	ND		113	39.6	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
4-Nitrophenol	ND		373	102	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
N-Nitrosodi-n-propylamine	ND		113	41.9	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
N-Nitrosodiphenylamine	ND		113	30.5	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Pentachlorophenol	ND		305	119	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Phenanthrene	ND		45.3	14.7	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Phenol	ND		113	43.0	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
Pyrene	ND		45.3	18.1	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4,5-Trichlorophenol	ND		170	37.3	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1
2,4,6-Trichlorophenol	ND		170	32.8	ug/Kg	☼	11/15/23 08:00	11/16/23 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*60*		*34 - 120*	*11/15/23 08:00*	*11/16/23 12:55*	*1*
2-Fluorophenol (Surr)	*61*		*20 - 120*	*11/15/23 08:00*	*11/16/23 12:55*	*1*
Nitrobenzene-d5 (Surr)	*58*		*25 - 120*	*11/15/23 08:00*	*11/16/23 12:55*	*1*
Phenol-d5 (Surr)	*62*		*26 - 120*	*11/15/23 08:00*	*11/16/23 12:55*	*1*
Terphenyl-d14 (Surr)	*72*		*46 - 137*	*11/15/23 08:00*	*11/16/23 12:55*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*10 - 120*	*11/15/23 08:00*	*11/16/23 12:55*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		10.8	8.09	mg/Kg	☼	11/22/23 08:57	11/27/23 21:27	1
Diesel	ND		10.8	4.30	mg/Kg	☼	11/22/23 08:57	11/27/23 21:27	1
Waste Oil	ND		10.8	2.20	mg/Kg	☼	11/22/23 08:57	11/27/23 21:27	1
Total Extractable Hydrocarbons	ND		16.2	4.30	mg/Kg	☼	11/22/23 08:57	11/27/23 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*87*		*12 - 126*	*11/22/23 08:57*	*11/27/23 21:27*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4770**		20.0	5.34	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Antimony	ND	^1+	2.00	0.359	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Arsenic	**4.29**		1.50	0.316	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Barium	**61.3**		20.0	0.362	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Beryllium	**0.373**	**J**	0.501	0.0541	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Cadmium	**0.128**	**J**	0.501	0.0481	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Calcium	**19900**		501	36.5	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (29-32)

Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4

Matrix: Solid
Percent Solids: 89.2

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	12.2		1.00	0.343	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Cobalt	6.69		1.00	0.0741	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Copper	9.89		2.50	0.236	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Iron	13100		20.0	6.95	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Lead	6.50		1.00	0.282	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Magnesium	4400		501	15.3	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Manganese	280		1.50	0.259	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Nickel	18.4		4.01	0.497	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Potassium	760		501	35.8	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Selenium	ND		2.00	0.470	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Silver	ND		1.00	0.0811	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Sodium	ND		501	142	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Thallium	ND		2.00	0.400	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Vanadium	18.9		5.01	0.823	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1
Zinc	31.0		5.01	1.37	mg/Kg	☼	11/13/23 15:00	11/14/23 21:40	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.107	0.0192	mg/Kg	☼	11/13/23 15:00	11/14/23 10:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	89.2		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	10.8		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (0-3)

Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5

Matrix: Solid
Percent Solids: 80.1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		23.3	19.5	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Benzene	ND		4.65	0.650	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Bromoform	ND		4.65	2.23	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Bromomethane	ND		4.65	3.86	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
2-Butanone (MEK)	ND		18.6	3.31	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Carbon disulfide	ND		4.65	1.08	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Carbon tetrachloride	ND		4.65	3.03	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Chlorobenzene	ND	*-	4.65	0.853	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Chlorodibromomethane	ND		4.65	2.59	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Chloroethane	ND		4.65	2.55	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Chloroform	ND	*-	4.65	0.734	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Chloromethane	ND		4.65	2.12	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
cis-1,2-Dichloroethene	ND		4.65	1.38	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
cis-1,3-Dichloropropene	ND		4.65	2.68	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Cyclohexane	ND		9.31	1.28	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,2-Dibromo-3-Chloropropane	ND		9.31	3.36	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,2-Dichlorobenzene	ND		4.65	1.04	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,3-Dichlorobenzene	ND		4.65	1.53	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,4-Dichlorobenzene	ND		4.65	0.821	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Dichlorobromomethane	ND		4.65	1.40	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Dichlorodifluoromethane	ND		4.65	2.11	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1-Dichloroethane	ND		4.65	1.32	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,2-Dichloroethane	ND		4.65	1.68	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1-Dichloroethene	ND		4.65	1.69	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,2-Dichloropropane	ND		4.65	0.792	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Ethylbenzene	ND	*-	4.65	0.975	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Ethylene Dibromide	ND	*-	4.65	0.717	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
2-Hexanone	ND		18.6	3.80	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Isopropylbenzene	ND		4.65	1.79	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Methyl acetate	ND		23.3	3.17	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Methylcyclohexane	ND		9.31	1.14	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Methylene Chloride	ND		23.3	11.2	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
4-Methyl-2-pentanone (MIBK)	ND		18.6	3.46	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Methyl tert-butyl ether	ND		4.65	1.84	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Styrene	ND		4.65	1.08	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1,2,2-Tetrachloroethane	ND		4.65	1.33	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Tetrachloroethene	ND		4.65	3.61	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Toluene	ND		4.65	0.720	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
trans-1,2-Dichloroethene	ND		4.65	1.32	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
trans-1,3-Dichloropropene	ND		4.65	3.45	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,2,4-Trichlorobenzene	ND		4.65	2.33	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1,1-Trichloroethane	ND		4.65	1.65	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1,2-Trichloroethane	ND		4.65	1.05	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Trichloroethene	ND		4.65	1.33	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Trichlorofluoromethane	ND		4.65	2.50	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.65	1.19	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Vinyl chloride	ND		4.65	1.65	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1
Xylenes, Total	ND	*-	9.31	1.48	ug/Kg	☼	11/11/23 08:20	11/17/23 07:05	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (0-3)

Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5

Matrix: Solid
Percent Solids: 80.1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/11/23 08:20*	*11/17/23 07:05*	*1*
Dibromofluoromethane (Surr)	*87*		*41 - 138*	*11/11/23 08:20*	*11/17/23 07:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*58 - 125*	*11/11/23 08:20*	*11/17/23 07:05*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 08:20*	*11/17/23 07:05*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Acenaphthylene	ND		50.2	18.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Acetophenone	ND		126	31.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Anthracene	ND		50.2	15.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Atrazine	ND		414	86.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzaldehyde	ND		414	70.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzo[a]anthracene	ND		50.2	18.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzo[a]pyrene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzo[b]fluoranthene	ND		50.2	15.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzo[g,h,i]perylene	ND		50.2	33.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Benzo[k]fluoranthene	ND		50.2	12.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
1,1'-Biphenyl	ND		126	35.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Bis(2-chloroethoxy)methane	ND		126	25.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Bis(2-chloroethyl)ether	ND		126	27.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
bis (2-chloroisopropyl) ether	ND		126	32.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Bis(2-ethylhexyl) phthalate	**113**	**J**	188	70.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Bromophenyl phenyl ether	ND		126	40.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Butyl benzyl phthalate	ND		188	64.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Caprolactam	ND		414	86.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Carbazole	ND		126	33.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Chloroaniline	ND		188	20.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Chloro-3-methylphenol	ND		188	47.7	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Chloronaphthalene	ND		126	35.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Chlorophenol	ND		126	32.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Chlorophenyl phenyl ether	ND		126	35.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Chrysene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Dibenz(a,h)anthracene	ND		50.2	18.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Dibenzofuran	ND		126	36.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
3,3'-Dichlorobenzidine	ND		188	119	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4-Dichlorophenol	ND		188	33.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Diethyl phthalate	ND		188	54.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4-Dimethylphenol	ND		188	45.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Dimethyl phthalate	ND		188	50.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Di-n-butyl phthalate	**70.9**	**J B**	188	30.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4,6-Dinitro-2-methylphenol	ND		414	131	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4-Dinitrophenol	ND		414	215	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4-Dinitrotoluene	ND		251	28.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,6-Dinitrotoluene	ND		251	45.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Di-n-octyl phthalate	ND		188	62.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Fluoranthene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Fluorene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Hexachlorobenzene	ND		50.2	17.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Hexachlorobutadiene	ND		126	26.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1

Client Sample ID: SB-10 (0-3)

Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5

Matrix: Solid
Percent Solids: 80.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		414	48.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Hexachloroethane	ND		126	40.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Indeno[1,2,3-cd]pyrene	ND		50.2	15.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Isophorone	ND		126	32.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Methylnaphthalene	ND		50.2	16.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Methylphenol	ND		251	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
3 & 4 Methylphenol	ND		502	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Naphthalene	ND		50.2	16.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Nitroaniline	ND		251	47.7	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
3-Nitroaniline	ND		251	43.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Nitroaniline	ND		251	32.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Nitrobenzene	ND		126	27.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2-Nitrophenol	ND		126	43.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
4-Nitrophenol	ND		414	113	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
N-Nitrosodi-n-propylamine	ND		126	46.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
N-Nitrosodiphenylamine	ND		126	33.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Pentachlorophenol	ND		339	132	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Phenanthrene	ND		50.2	16.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Phenol	ND		126	47.7	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
Pyrene	ND		50.2	20.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4,5-Trichlorophenol	ND		188	41.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1
2,4,6-Trichlorophenol	ND		188	36.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*34 - 120*	*11/15/23 08:00*	*11/16/23 13:19*	*1*
2-Fluorophenol (Surr)	*64*		*20 - 120*	*11/15/23 08:00*	*11/16/23 13:19*	*1*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*	*11/15/23 08:00*	*11/16/23 13:19*	*1*
Phenol-d5 (Surr)	*66*		*26 - 120*	*11/15/23 08:00*	*11/16/23 13:19*	*1*
Terphenyl-d14 (Surr)	*65*		*46 - 137*	*11/15/23 08:00*	*11/16/23 13:19*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*10 - 120*	*11/15/23 08:00*	*11/16/23 13:19*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12.2	9.12	mg/Kg	☼	11/22/23 08:57	11/27/23 21:42	1
Diesel	ND		12.2	4.85	mg/Kg	☼	11/22/23 08:57	11/27/23 21:42	1
Waste Oil	ND		12.2	2.48	mg/Kg	☼	11/22/23 08:57	11/27/23 21:42	1
Total Extractable Hydrocarbons	**7.60**	**J Z**	18.2	4.85	mg/Kg	☼	11/22/23 08:57	11/27/23 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*62*		*12 - 126*	*11/22/23 08:57*	*11/27/23 21:42*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**19600**		21.9	5.84	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Antimony	**0.408**	**J ^1+**	2.19	0.393	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Arsenic	**8.99**		1.64	0.346	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Barium	**321**		21.9	0.396	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Beryllium	**0.764**		0.548	0.0591	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Cadmium	ND		0.548	0.0526	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Calcium	**4120**		548	39.9	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (0-3)

Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5

Matrix: Solid
Percent Solids: 80.1

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	21.4		1.10	0.376	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Cobalt	8.29		1.10	0.0810	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Copper	17.3		2.74	0.258	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Iron	23000		21.9	7.60	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Lead	9.38		1.10	0.309	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Magnesium	3510		548	16.7	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Manganese	256		1.64	0.284	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Nickel	19.1		4.38	0.543	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Potassium	1000		548	39.2	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Selenium	ND		2.19	0.514	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Silver	ND		1.10	0.0887	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Sodium	ND		548	155	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Thallium	ND		2.19	0.437	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Vanadium	30.4		5.48	0.900	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1
Zinc	66.3		5.48	1.50	mg/Kg	☼	11/13/23 15:00	11/14/23 21:45	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0504	J	0.136	0.0245	mg/Kg	☼	11/13/23 15:00	11/14/23 10:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	80.1		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	19.9		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (20-23)

Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6

Matrix: Solid
Percent Solids: 84.7

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		26.1	21.9	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Benzene	ND		5.22	0.729	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Bromoform	ND		5.22	2.51	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Bromomethane	ND		5.22	4.33	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
2-Butanone (MEK)	ND		20.9	3.71	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Carbon disulfide	ND		5.22	1.21	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Carbon tetrachloride	ND		5.22	3.40	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Chlorobenzene	ND		5.22	0.957	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Chlorodibromomethane	ND		5.22	2.91	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Chloroethane	ND		5.22	2.86	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Chloroform	ND		5.22	0.823	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Chloromethane	ND		5.22	2.38	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
cis-1,2-Dichloroethene	ND		5.22	1.55	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
cis-1,3-Dichloropropene	ND		5.22	3.01	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Cyclohexane	ND		10.4	1.44	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,2-Dibromo-3-Chloropropane	ND		10.4	3.77	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,2-Dichlorobenzene	ND		5.22	1.16	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,3-Dichlorobenzene	ND		5.22	1.72	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,4-Dichlorobenzene	ND		5.22	0.921	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Dichlorobromomethane	ND		5.22	1.57	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Dichlorodifluoromethane	ND		5.22	2.36	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1-Dichloroethane	ND		5.22	1.48	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,2-Dichloroethane	ND		5.22	1.88	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1-Dichloroethene	ND		5.22	1.90	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,2-Dichloropropane	ND		5.22	0.889	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Ethylbenzene	ND		5.22	1.09	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Ethylene Dibromide	ND		5.22	0.804	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
2-Hexanone	ND		20.9	4.27	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Isopropylbenzene	ND		5.22	2.01	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Methyl acetate	ND		26.1	3.55	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Methylcyclohexane	ND		10.4	1.28	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Methylene Chloride	ND		26.1	12.5	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
4-Methyl-2-pentanone (MIBK)	ND		20.9	3.88	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Methyl tert-butyl ether	ND		5.22	2.07	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Styrene	ND		5.22	1.21	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1,2,2-Tetrachloroethane	ND		5.22	1.49	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Tetrachloroethene	ND		5.22	4.06	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Toluene	ND		5.22	0.807	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
trans-1,2-Dichloroethene	ND		5.22	1.48	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
trans-1,3-Dichloropropene	ND		5.22	3.88	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,2,4-Trichlorobenzene	ND		5.22	2.61	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1,1-Trichloroethane	ND		5.22	1.85	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1,2-Trichloroethane	ND		5.22	1.18	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Trichloroethene	ND		5.22	1.50	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Trichlorofluoromethane	ND		5.22	2.81	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.22	1.34	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Vinyl chloride	ND		5.22	1.85	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1
Xylenes, Total	ND		10.4	1.66	ug/Kg	☼	11/11/23 08:20	11/18/23 05:43	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (20-23)

Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6

Matrix: Solid
Percent Solids: 84.7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*41 - 143*	*11/11/23 08:20*	*11/18/23 05:43*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*	*11/11/23 08:20*	*11/18/23 05:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*58 - 125*	*11/11/23 08:20*	*11/18/23 05:43*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 08:20*	*11/18/23 05:43*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Acenaphthylene	ND		45.9	17.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Acetophenone	ND		115	28.7	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Anthracene	ND		45.9	13.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Atrazine	ND		379	79.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzaldehyde	ND		379	64.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzo[a]anthracene	ND		45.9	17.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzo[a]pyrene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzo[b]fluoranthene	ND		45.9	13.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzo[g,h,i]perylene	ND		45.9	31.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Benzo[k]fluoranthene	ND		45.9	11.5	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
1,1'-Biphenyl	ND		115	32.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Bis(2-chloroethoxy)methane	ND		115	23.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Bis(2-chloroethyl)ether	ND		115	25.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
bis (2-chloroisopropyl) ether	ND		115	29.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Bis(2-ethylhexyl) phthalate	ND		172	64.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Bromophenyl phenyl ether	ND		115	36.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Butyl benzyl phthalate	ND		172	58.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Caprolactam	ND		379	79.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Carbazole	ND		115	31.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Chloroaniline	ND		172	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Chloro-3-methylphenol	ND		172	43.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Chloronaphthalene	ND		115	32.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Chlorophenol	ND		115	29.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Chlorophenyl phenyl ether	ND		115	32.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Chrysene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Dibenz(a,h)anthracene	ND		45.9	17.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Dibenzofuran	ND		115	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
3,3'-Dichlorobenzidine	ND		172	109	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4-Dichlorophenol	ND		172	31.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Diethyl phthalate	ND		172	49.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4-Dimethylphenol	ND		172	41.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Dimethyl phthalate	ND	F1	172	45.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Di-n-butyl phthalate	**70.9**	**J B**	172	27.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4,6-Dinitro-2-methylphenol	ND		379	119	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4-Dinitrophenol	ND		379	196	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4-Dinitrotoluene	ND		230	26.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,6-Dinitrotoluene	ND		230	41.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Di-n-octyl phthalate	ND		172	57.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Fluoranthene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Fluorene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Hexachlorobenzene	ND		45.9	16.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Hexachlorobutadiene	ND		115	24.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (20-23)

Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6

Matrix: Solid
Percent Solids: 84.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		379	44.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Hexachloroethane	ND		115	36.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Indeno[1,2,3-cd]pyrene	ND		45.9	13.8	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Isophorone	ND		115	29.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Methylnaphthalene	ND		45.9	14.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Methylphenol	ND		230	47.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
3 & 4 Methylphenol	ND		459	47.1	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Naphthalene	ND		45.9	14.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Nitroaniline	ND		230	43.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
3-Nitroaniline	ND		230	40.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Nitroaniline	ND		230	29.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Nitrobenzene	ND		115	25.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2-Nitrophenol	ND		115	40.2	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
4-Nitrophenol	ND		379	103	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
N-Nitrosodi-n-propylamine	ND		115	42.5	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
N-Nitrosodiphenylamine	ND		115	31.0	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Pentachlorophenol	ND		310	121	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Phenanthrene	ND		45.9	14.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Phenol	ND		115	43.6	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
Pyrene	ND		45.9	18.4	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4,5-Trichlorophenol	ND		172	37.9	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1
2,4,6-Trichlorophenol	ND		172	33.3	ug/Kg	☼	11/15/23 08:00	11/16/23 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*34 - 120*	*11/15/23 08:00*	*11/16/23 13:43*	*1*
2-Fluorophenol (Surr)	*64*		*20 - 120*	*11/15/23 08:00*	*11/16/23 13:43*	*1*
Nitrobenzene-d5 (Surr)	*61*		*25 - 120*	*11/15/23 08:00*	*11/16/23 13:43*	*1*
Phenol-d5 (Surr)	*63*		*26 - 120*	*11/15/23 08:00*	*11/16/23 13:43*	*1*
Terphenyl-d14 (Surr)	*67*		*46 - 137*	*11/15/23 08:00*	*11/16/23 13:43*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*10 - 120*	*11/15/23 08:00*	*11/16/23 13:43*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		11.4	8.55	mg/Kg	☼	11/22/23 08:57	11/27/23 21:57	1
Diesel	ND		11.4	4.55	mg/Kg	☼	11/22/23 08:57	11/27/23 21:57	1
Waste Oil	ND		11.4	2.33	mg/Kg	☼	11/22/23 08:57	11/27/23 21:57	1
Total Extractable Hydrocarbons	ND		17.1	4.55	mg/Kg	☼	11/22/23 08:57	11/27/23 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*73*		*12 - 126*	*11/22/23 08:57*	*11/27/23 21:57*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7140**		18.9	5.04	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Antimony	ND	^1+	1.89	0.339	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Arsenic	**4.49**		1.42	0.298	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Barium	**128**		18.9	0.342	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Beryllium	**0.395**	**J**	0.472	0.0510	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Cadmium	ND		0.472	0.0453	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Calcium	**2170**		472	34.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (20-23)

Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6

Matrix: Solid
Percent Solids: 84.7

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	13.0		0.945	0.324	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Cobalt	12.5		0.945	0.0699	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Copper	8.08		2.36	0.223	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Iron	12400		18.9	6.56	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Lead	11.2		0.945	0.266	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Magnesium	1590		472	14.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Manganese	286		1.42	0.245	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Nickel	15.3		3.78	0.469	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Potassium	527		472	33.8	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Selenium	ND		1.89	0.443	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Silver	ND		0.945	0.0765	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Sodium	ND		472	134	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Thallium	ND		1.89	0.377	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Vanadium	14.8		4.72	0.776	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1
Zinc	24.0		4.72	1.29	mg/Kg	☼	11/13/23 15:00	11/14/23 21:49	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.145		0.112	0.0202	mg/Kg	☼	11/13/23 15:00	11/14/23 10:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	84.7		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	15.3		0.1	0.1	%			11/13/23 10:23	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(41-143)	(41-138)	(58-125)	(56-125)
240-195265-1	SB-8 (0-3)	107	88	101	108
240-195265-2	SB-8 (33-35)	108	90	101	108
240-195265-3	SB-9 (0-3)	108	89	98	109
240-195265-4	SB-9 (29-32)	108	88	97	107
240-195265-5	SB-10 (0-3)	108	87	99	108
240-195265-6	SB-10 (20-23)	109	91	107	108
LCS 240-594945/4	Lab Control Sample	104	94	105	103
LCS 240-595108/4	Lab Control Sample	109	99	98	108
MB 240-594945/6	Method Blank	105	87	101	103
MB 240-595108/6	Method Blank	107	91	98	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(20-120)	(25-120)	(26-120)	(46-137)	(10-120)
240-195265-1	SB-8 (0-3)	64	69	67	71	70	63
240-195265-2	SB-8 (33-35)	58	61	59	62	64	54
240-195265-3	SB-9 (0-3)	66	69	65	70	73	62
240-195265-4	SB-9 (29-32)	60	61	58	62	72	60
240-195265-5	SB-10 (0-3)	59	64	62	66	65	49
240-195265-6	SB-10 (20-23)	59	64	61	63	67	58
240-195265-6 MS	SB-10 (20-23)	48	53	54	56	59	59
240-195265-6 MSD	SB-10 (20-23)	47	53	53	55	59	54
LCS 240-594638/2-A	Lab Control Sample	72	75	80	78	75	80
MB 240-594638/1-A	Method Blank	70	72	70	73	74	73

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCN
Lab Sample ID	Client Sample ID	(12-126)
240-195265-1	SB-8 (0-3)	82
240-195265-1 MS	SB-8 (0-3)	88
240-195265-1 MSD	SB-8 (0-3)	79

Surrogate Summary

Client: Tetra Tech EM Inc.
Job ID: 240-195265-1
Project/Site: Elkem Carbide site

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**OTCN (12-126)**							
240-195265-2	SB-8 (33-35)	87							
240-195265-3	SB-9 (0-3)	72							
240-195265-4	SB-9 (29-32)	87							
240-195265-5	SB-10 (0-3)	62							
240-195265-6	SB-10 (20-23)	73							
LCS 310-406880/2-A	Lab Control Sample	91							
MB 310-406880/1-A	Method Blank	86							

Surrogate Legend

OTCN = n-Octacosane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-594945/6
Matrix: Solid
Analysis Batch: 594945

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/16/23 21:29	1
Benzene	ND		5.00	0.698	ug/Kg			11/16/23 21:29	1
Bromoform	ND		5.00	2.40	ug/Kg			11/16/23 21:29	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/16/23 21:29	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/16/23 21:29	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/16/23 21:29	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/16/23 21:29	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/16/23 21:29	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/16/23 21:29	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/16/23 21:29	1
Chloroform	ND		5.00	0.788	ug/Kg			11/16/23 21:29	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/16/23 21:29	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/16/23 21:29	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/16/23 21:29	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/16/23 21:29	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/16/23 21:29	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/16/23 21:29	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/16/23 21:29	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/16/23 21:29	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/16/23 21:29	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/16/23 21:29	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/16/23 21:29	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/16/23 21:29	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/16/23 21:29	1
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/16/23 21:29	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/16/23 21:29	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/16/23 21:29	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/16/23 21:29	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/16/23 21:29	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/16/23 21:29	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/16/23 21:29	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/16/23 21:29	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/16/23 21:29	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/16/23 21:29	1
Styrene	ND		5.00	1.16	ug/Kg			11/16/23 21:29	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/16/23 21:29	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/16/23 21:29	1
Toluene	ND		5.00	0.773	ug/Kg			11/16/23 21:29	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/16/23 21:29	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/16/23 21:29	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/16/23 21:29	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/16/23 21:29	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/16/23 21:29	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/16/23 21:29	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/16/23 21:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/16/23 21:29	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/16/23 21:29	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/16/23 21:29	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-594945/6
Matrix: Solid
Analysis Batch: 594945

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		41 - 143		11/16/23 21:29	1
Dibromofluoromethane (Surr)	87		41 - 138		11/16/23 21:29	1
1,2-Dichloroethane-d4 (Surr)	101		58 - 125		11/16/23 21:29	1
Toluene-d8 (Surr)	103		56 - 125		11/16/23 21:29	1

Lab Sample ID: LCS 240-594945/4
Matrix: Solid
Analysis Batch: 594945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	44.66		ug/Kg		89	58 - 160
Benzene	25.0	20.82		ug/Kg		83	76 - 121
Bromoform	25.0	15.44		ug/Kg		62	57 - 140
Bromomethane	25.0	27.32		ug/Kg		109	10 - 171
2-Butanone (MEK)	50.0	40.55		ug/Kg		81	63 - 142
Carbon disulfide	25.0	20.71		ug/Kg		83	43 - 152
Carbon tetrachloride	25.0	16.96		ug/Kg		68	64 - 144
Chlorobenzene	25.0	19.48	*-	ug/Kg		78	80 - 120
Chlorodibromomethane	25.0	17.15		ug/Kg		69	68 - 131
Chloroethane	25.0	22.32		ug/Kg		89	11 - 164
Chloroform	25.0	18.81	*-	ug/Kg		75	78 - 120
Chloromethane	25.0	24.21		ug/Kg		97	41 - 142
cis-1,2-Dichloroethene	25.0	19.68		ug/Kg		79	78 - 124
cis-1,3-Dichloropropene	25.0	18.59		ug/Kg		74	70 - 133
Cyclohexane	25.0	21.18		ug/Kg		85	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	16.52		ug/Kg		66	52 - 133
1,2-Dichlorobenzene	25.0	19.22		ug/Kg		77	73 - 120
1,3-Dichlorobenzene	25.0	19.58		ug/Kg		78	73 - 120
1,4-Dichlorobenzene	25.0	19.13		ug/Kg		77	74 - 120
Dichlorobromomethane	25.0	17.91		ug/Kg		72	71 - 138
Dichlorodifluoromethane	25.0	22.31		ug/Kg		89	21 - 150
1,1-Dichloroethane	25.0	20.32		ug/Kg		81	74 - 121
1,2-Dichloroethane	25.0	18.58		ug/Kg		74	71 - 123
1,1-Dichloroethene	25.0	21.45		ug/Kg		86	68 - 141
1,2-Dichloropropane	25.0	21.55		ug/Kg		86	76 - 126
Ethylbenzene	25.0	19.46	*-	ug/Kg		78	80 - 120
Ethylene Dibromide	25.0	19.50	*-	ug/Kg		78	80 - 121
2-Hexanone	50.0	45.88		ug/Kg		92	65 - 142
Isopropylbenzene	25.0	20.20		ug/Kg		81	80 - 130
Methyl acetate	50.0	38.01		ug/Kg		76	60 - 133
Methylcyclohexane	25.0	19.62		ug/Kg		78	70 - 138
Methylene Chloride	25.0	21.46	J	ug/Kg		86	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	43.82		ug/Kg		88	62 - 142
Methyl tert-butyl ether	25.0	18.79		ug/Kg		75	70 - 130
m-Xylene & p-Xylene	25.0	19.46	*-	ug/Kg		78	80 - 122
o-Xylene	25.0	19.50	*-	ug/Kg		78	80 - 124
Styrene	25.0	19.43		ug/Kg		78	75 - 140
1,1,2,2-Tetrachloroethane	25.0	20.88		ug/Kg		84	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-594945/4
Matrix: Solid
Analysis Batch: 594945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	25.0	19.10		ug/Kg		76	76 - 127
Toluene	25.0	20.33		ug/Kg		81	80 - 120
trans-1,2-Dichloroethene	25.0	20.51		ug/Kg		82	76 - 130
trans-1,3-Dichloropropene	25.0	19.61		ug/Kg		78	61 - 121
1,2,4-Trichlorobenzene	25.0	19.75		ug/Kg		79	58 - 132
1,1,1-Trichloroethane	25.0	18.42		ug/Kg		74	74 - 136
1,1,2-Trichloroethane	25.0	21.25		ug/Kg		85	79 - 120
Trichloroethene	25.0	19.63		ug/Kg		79	74 - 130
Trichlorofluoromethane	25.0	23.56		ug/Kg		94	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	19.91		ug/Kg		80	64 - 148
Vinyl chloride	25.0	23.53		ug/Kg		94	49 - 146
Xylenes, Total	50.0	38.96	*-	ug/Kg		78	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*41 - 143*
Dibromofluoromethane (Surr)	*94*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*105*		*58 - 125*
Toluene-d8 (Surr)	*103*		*56 - 125*

Lab Sample ID: MB 240-595108/6
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/18/23 00:08	1
Benzene	ND		5.00	0.698	ug/Kg			11/18/23 00:08	1
Bromoform	ND		5.00	2.40	ug/Kg			11/18/23 00:08	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/18/23 00:08	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/18/23 00:08	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/18/23 00:08	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/18/23 00:08	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/18/23 00:08	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/18/23 00:08	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/18/23 00:08	1
Chloroform	ND		5.00	0.788	ug/Kg			11/18/23 00:08	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/18/23 00:08	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/18/23 00:08	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/18/23 00:08	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/18/23 00:08	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/18/23 00:08	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/18/23 00:08	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/18/23 00:08	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/18/23 00:08	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/18/23 00:08	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/18/23 00:08	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/18/23 00:08	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/18/23 00:08	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/18/23 00:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-595108/6
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/18/23 00:08	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/18/23 00:08	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/18/23 00:08	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/18/23 00:08	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/18/23 00:08	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/18/23 00:08	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/18/23 00:08	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/18/23 00:08	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/18/23 00:08	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/18/23 00:08	1
Styrene	ND		5.00	1.16	ug/Kg			11/18/23 00:08	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/18/23 00:08	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/18/23 00:08	1
Toluene	ND		5.00	0.773	ug/Kg			11/18/23 00:08	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/18/23 00:08	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/18/23 00:08	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/18/23 00:08	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/18/23 00:08	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/18/23 00:08	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/18/23 00:08	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/18/23 00:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/18/23 00:08	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/18/23 00:08	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/18/23 00:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*		*11/18/23 00:08*	*1*
Dibromofluoromethane (Surr)	*91*		*41 - 138*		*11/18/23 00:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*58 - 125*		*11/18/23 00:08*	*1*
Toluene-d8 (Surr)	*106*		*56 - 125*		*11/18/23 00:08*	*1*

Lab Sample ID: LCS 240-595108/4
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	47.28		ug/Kg		95	58 - 160
Benzene	25.0	25.18		ug/Kg		101	76 - 121
Bromoform	25.0	19.10		ug/Kg		76	57 - 140
Bromomethane	25.0	31.48		ug/Kg		126	10 - 171
2-Butanone (MEK)	50.0	48.12		ug/Kg		96	63 - 142
Carbon disulfide	25.0	25.76		ug/Kg		103	43 - 152
Carbon tetrachloride	25.0	20.86		ug/Kg		83	64 - 144
Chlorobenzene	25.0	24.19		ug/Kg		97	80 - 120
Chlorodibromomethane	25.0	22.01		ug/Kg		88	68 - 131
Chloroethane	25.0	25.10		ug/Kg		100	11 - 164
Chloroform	25.0	22.47		ug/Kg		90	78 - 120
Chloromethane	25.0	26.55		ug/Kg		106	41 - 142

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-595108/4
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	25.0	23.87		ug/Kg		95	78 - 124
cis-1,3-Dichloropropene	25.0	22.15		ug/Kg		89	70 - 133
Cyclohexane	25.0	26.25		ug/Kg		105	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	20.60		ug/Kg		82	52 - 133
1,2-Dichlorobenzene	25.0	24.65		ug/Kg		99	73 - 120
1,3-Dichlorobenzene	25.0	25.25		ug/Kg		101	73 - 120
1,4-Dichlorobenzene	25.0	24.43		ug/Kg		98	74 - 120
Dichlorobromomethane	25.0	22.56		ug/Kg		90	71 - 138
Dichlorodifluoromethane	25.0	24.76		ug/Kg		99	21 - 150
1,1-Dichloroethane	25.0	25.14		ug/Kg		101	74 - 121
1,2-Dichloroethane	25.0	21.99		ug/Kg		88	71 - 123
1,1-Dichloroethene	25.0	25.61		ug/Kg		102	68 - 141
1,2-Dichloropropane	25.0	26.33		ug/Kg		105	76 - 126
Ethylbenzene	25.0	24.41		ug/Kg		98	80 - 120
Ethylene Dibromide	25.0	23.27		ug/Kg		93	80 - 121
2-Hexanone	50.0	55.15		ug/Kg		110	65 - 142
Isopropylbenzene	25.0	25.36		ug/Kg		101	80 - 130
Methyl acetate	50.0	47.36		ug/Kg		95	60 - 133
Methylcyclohexane	25.0	25.20		ug/Kg		101	70 - 138
Methylene Chloride	25.0	24.71	J	ug/Kg		99	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	51.91		ug/Kg		104	62 - 142
Methyl tert-butyl ether	25.0	22.79		ug/Kg		91	70 - 130
m-Xylene & p-Xylene	25.0	24.10		ug/Kg		96	80 - 122
o-Xylene	25.0	24.14		ug/Kg		97	80 - 124
Styrene	25.0	24.82		ug/Kg		99	75 - 140
1,1,2,2-Tetrachloroethane	25.0	24.99		ug/Kg		100	66 - 129
Tetrachloroethene	25.0	24.05		ug/Kg		96	76 - 127
Toluene	25.0	25.01		ug/Kg		100	80 - 120
trans-1,2-Dichloroethene	25.0	25.37		ug/Kg		101	76 - 130
trans-1,3-Dichloropropene	25.0	24.77		ug/Kg		99	61 - 121
1,2,4-Trichlorobenzene	25.0	26.19		ug/Kg		105	58 - 132
1,1,1-Trichloroethane	25.0	22.93		ug/Kg		92	74 - 136
1,1,2-Trichloroethane	25.0	25.80		ug/Kg		103	79 - 120
Trichloroethene	25.0	23.33		ug/Kg		93	74 - 130
Trichlorofluoromethane	25.0	25.94		ug/Kg		104	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.44		ug/Kg		98	64 - 148
Vinyl chloride	25.0	26.40		ug/Kg		106	49 - 146
Xylenes, Total	50.0	48.24		ug/Kg		96	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*41 - 143*
Dibromofluoromethane (Surr)	*99*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*98*		*58 - 125*
Toluene-d8 (Surr)	*108*		*56 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-594638/1-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Acetophenone	ND		100	25.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Anthracene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Atrazine	ND		330	69.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Caprolactam	ND		330	69.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Carbazole	ND		100	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Chrysene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Di-n-butyl phthalate	56.73	J	150	24.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Fluorene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Isophorone	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594638/1-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Pentachlorophenol	ND		270	105	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Phenol	ND		100	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Pyrene	ND		40.0	16.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*34 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
2-Fluorophenol (Surr)	*72*		*20 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
Nitrobenzene-d5 (Surr)	*70*		*25 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
Phenol-d5 (Surr)	*73*		*26 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
Terphenyl-d14 (Surr)	*74*		*46 - 137*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
2,4,6-Tribromophenol (Surr)	*73*		*10 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*

Lab Sample ID: LCS 240-594638/2-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	969.8		ug/Kg		73	52 - 120
Acenaphthylene	1330	971.1		ug/Kg		73	52 - 120
Acetophenone	1330	1008		ug/Kg		76	47 - 120
Anthracene	1330	1042		ug/Kg		78	64 - 120
Atrazine	2670	2338		ug/Kg		88	71 - 125
Benzaldehyde	2670	1985		ug/Kg		74	42 - 120
Benzo[a]anthracene	1330	1029		ug/Kg		77	70 - 120
Benzo[a]pyrene	1330	967.3		ug/Kg		73	63 - 125
Benzo[b]fluoranthene	1330	1086		ug/Kg		81	64 - 121
Benzo[g,h,i]perylene	1330	1052		ug/Kg		79	62 - 120
Benzo[k]fluoranthene	1330	1033		ug/Kg		77	63 - 128
1,1'-Biphenyl	1330	973.3		ug/Kg		73	50 - 120
Bis(2-chloroethoxy)methane	1330	975.9		ug/Kg		73	50 - 120
Bis(2-chloroethyl)ether	1330	878.5		ug/Kg		66	42 - 120
bis (2-chloroisopropyl) ether	1330	993.4		ug/Kg		75	38 - 120
Bis(2-ethylhexyl) phthalate	1330	976.9		ug/Kg		73	63 - 133
4-Bromophenyl phenyl ether	1330	1057		ug/Kg		79	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594638/2-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butyl benzyl phthalate	1330	991.8		ug/Kg		74	66 - 127
Caprolactam	2670	2028		ug/Kg		76	67 - 120
Carbazole	1330	1142		ug/Kg		86	61 - 129
4-Chloroaniline	1330	594.6		ug/Kg		45	29 - 120
4-Chloro-3-methylphenol	1330	1081		ug/Kg		81	51 - 120
2-Chloronaphthalene	1330	959.5		ug/Kg		72	51 - 120
2-Chlorophenol	1330	995.3		ug/Kg		75	47 - 120
4-Chlorophenyl phenyl ether	1330	993.2		ug/Kg		74	59 - 120
Chrysene	1330	967.1		ug/Kg		73	67 - 120
Dibenz(a,h)anthracene	1330	982.9		ug/Kg		74	62 - 120
Dibenzofuran	1330	955.2		ug/Kg		72	55 - 120
3,3'-Dichlorobenzidine	2670	1836		ug/Kg		69	27 - 199
2,4-Dichlorophenol	1330	969.2		ug/Kg		73	50 - 120
Diethyl phthalate	1330	1104		ug/Kg		83	61 - 120
2,4-Dimethylphenol	1330	830.4		ug/Kg		62	24 - 120
Dimethyl phthalate	1330	1031		ug/Kg		77	64 - 120
Di-n-butyl phthalate	1330	1071		ug/Kg		80	70 - 129
4,6-Dinitro-2-methylphenol	2670	1175		ug/Kg		44	10 - 120
2,4-Dinitrophenol	2670	779.9		ug/Kg		29	10 - 120
2,4-Dinitrotoluene	1330	1045		ug/Kg		78	64 - 120
2,6-Dinitrotoluene	1330	1025		ug/Kg		77	62 - 120
Di-n-octyl phthalate	1330	974.4		ug/Kg		73	64 - 129
Fluoranthene	1330	1042		ug/Kg		78	71 - 124
Fluorene	1330	1026		ug/Kg		77	58 - 120
Hexachlorobenzene	1330	1031		ug/Kg		77	59 - 120
Hexachlorobutadiene	1330	965.7		ug/Kg		72	45 - 120
Hexachlorocyclopentadiene	1330	696.4		ug/Kg		52	10 - 120
Hexachloroethane	1330	965.6		ug/Kg		72	39 - 120
Indeno[1,2,3-cd]pyrene	1330	997.7		ug/Kg		75	65 - 122
Isophorone	1330	1032		ug/Kg		77	50 - 120
2-Methylnaphthalene	1330	978.9		ug/Kg		73	38 - 120
2-Methylphenol	1330	1023		ug/Kg		77	45 - 120
3 & 4 Methylphenol	1330	960.3		ug/Kg		72	49 - 120
Naphthalene	1330	927.0		ug/Kg		70	34 - 120
2-Nitroaniline	1330	1074		ug/Kg		81	57 - 120
3-Nitroaniline	1330	797.4		ug/Kg		60	41 - 120
4-Nitroaniline	1330	999.5		ug/Kg		75	48 - 128
Nitrobenzene	1330	1049		ug/Kg		79	48 - 120
2-Nitrophenol	1330	978.4		ug/Kg		73	51 - 120
4-Nitrophenol	2670	2241		ug/Kg		84	43 - 120
N-Nitrosodi-n-propylamine	1330	1077		ug/Kg		81	48 - 120
N-Nitrosodiphenylamine	1330	1003		ug/Kg		75	64 - 120
Pentachlorophenol	2670	1971		ug/Kg		74	10 - 120
Phenanthrene	1330	969.5		ug/Kg		73	60 - 120
Phenol	1330	993.6		ug/Kg		75	48 - 120
Pyrene	1330	991.3		ug/Kg		74	67 - 120
2,4,5-Trichlorophenol	1330	1006		ug/Kg		75	50 - 120
2,4,6-Trichlorophenol	1330	1044		ug/Kg		78	50 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594638/2-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594638

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*72*		*34 - 120*
2-Fluorophenol (Surr)	*75*		*20 - 120*
Nitrobenzene-d5 (Surr)	*80*		*25 - 120*
Phenol-d5 (Surr)	*78*		*26 - 120*
Terphenyl-d14 (Surr)	*75*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*80*		*10 - 120*

Lab Sample ID: 240-195265-6 MS
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: SB-10 (20-23)
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	ND		1590	807.7		ug/Kg	☼	51	33 - 120
Acenaphthylene	ND		1590	813.8		ug/Kg	☼	51	39 - 120
Acetophenone	ND		1590	822.6		ug/Kg	☼	52	11 - 120
Anthracene	ND		1590	942.9		ug/Kg	☼	59	30 - 127
Atrazine	ND		3180	2101		ug/Kg	☼	66	52 - 126
Benzaldehyde	ND		3180	1575		ug/Kg	☼	50	13 - 120
Benzo[a]anthracene	ND		1590	986.4		ug/Kg	☼	62	24 - 137
Benzo[a]pyrene	ND		1590	886.0		ug/Kg	☼	56	28 - 136
Benzo[b]fluoranthene	ND		1590	989.1		ug/Kg	☼	62	21 - 142
Benzo[g,h,i]perylene	ND		1590	1029		ug/Kg	☼	65	10 - 144
Benzo[k]fluoranthene	ND		1590	989.9		ug/Kg	☼	62	36 - 135
1,1'-Biphenyl	ND		1590	778.3		ug/Kg	☼	49	29 - 120
Bis(2-chloroethoxy)methane	ND		1590	860.4		ug/Kg	☼	54	25 - 120
Bis(2-chloroethyl)ether	ND		1590	780.3		ug/Kg	☼	49	16 - 120
bis (2-chloroisopropyl) ether	ND		1590	767.8		ug/Kg	☼	48	10 - 120
Bis(2-ethylhexyl) phthalate	ND		1590	947.9		ug/Kg	☼	60	37 - 143
4-Bromophenyl phenyl ether	ND		1590	930.3		ug/Kg	☼	59	49 - 120
Butyl benzyl phthalate	ND		1590	959.1		ug/Kg	☼	60	49 - 130
Caprolactam	ND		3180	1629		ug/Kg	☼	51	37 - 127
Carbazole	ND		1590	930.2		ug/Kg	☼	59	33 - 132
4-Chloroaniline	ND		1590	799.9		ug/Kg	☼	50	10 - 120
4-Chloro-3-methylphenol	ND		1590	926.4		ug/Kg	☼	58	35 - 120
2-Chloronaphthalene	ND		1590	772.1		ug/Kg	☼	49	33 - 120
2-Chlorophenol	ND		1590	839.6		ug/Kg	☼	53	19 - 120
4-Chlorophenyl phenyl ether	ND		1590	833.7		ug/Kg	☼	52	45 - 120
Chrysene	ND		1590	908.6		ug/Kg	☼	57	28 - 129
Dibenz(a,h)anthracene	ND		1590	922.6		ug/Kg	☼	58	10 - 132
Dibenzofuran	ND		1590	801.3		ug/Kg	☼	50	33 - 120
3,3'-Dichlorobenzidine	ND		3180	2390		ug/Kg	☼	75	10 - 179
2,4-Dichlorophenol	ND		1590	838.1		ug/Kg	☼	53	21 - 120
Diethyl phthalate	ND		1590	934.8		ug/Kg	☼	59	48 - 120
2,4-Dimethylphenol	ND		1590	622.8		ug/Kg	☼	39	10 - 120
Dimethyl phthalate	ND	F1	1590	885.9		ug/Kg	☼	56	45 - 120
Di-n-butyl phthalate	70.9	J B	1590	1011		ug/Kg	☼	59	40 - 137
4,6-Dinitro-2-methylphenol	ND		3180	626.0		ug/Kg	☼	20	11 - 120
2,4-Dinitrophenol	ND		3180	452.5		ug/Kg	☼	14	10 - 126

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195265-6 MS
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: SB-10 (20-23)
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	ND		1590	861.8		ug/Kg	☼	54	46 - 120
2,6-Dinitrotoluene	ND		1590	894.1		ug/Kg	☼	56	44 - 120
Di-n-octyl phthalate	ND		1590	933.3		ug/Kg	☼	59	34 - 152
Fluoranthene	ND		1590	958.4		ug/Kg	☼	60	31 - 140
Fluorene	ND		1590	876.4		ug/Kg	☼	55	43 - 120
Hexachlorobenzene	ND		1590	886.2		ug/Kg	☼	56	44 - 120
Hexachlorobutadiene	ND		1590	690.1		ug/Kg	☼	43	13 - 120
Hexachlorocyclopentadiene	ND		1590	339.5	J	ug/Kg	☼	21	10 - 120
Hexachloroethane	ND		1590	677.6		ug/Kg	☼	43	10 - 120
Indeno[1,2,3-cd]pyrene	ND		1590	979.3		ug/Kg	☼	62	10 - 139
Isophorone	ND		1590	889.5		ug/Kg	☼	56	27 - 120
2-Methylnaphthalene	ND		1590	761.2		ug/Kg	☼	48	13 - 122
2-Methylphenol	ND		1590	797.4		ug/Kg	☼	50	12 - 120
3 & 4 Methylphenol	ND		1590	833.1		ug/Kg	☼	52	10 - 122
Naphthalene	ND		1590	721.9		ug/Kg	☼	45	10 - 120
2-Nitroaniline	ND		1590	962.8		ug/Kg	☼	61	36 - 122
3-Nitroaniline	ND		1590	740.8		ug/Kg	☼	47	10 - 123
4-Nitroaniline	ND		1590	921.5		ug/Kg	☼	58	13 - 129
Nitrobenzene	ND		1590	863.4		ug/Kg	☼	54	19 - 120
2-Nitrophenol	ND		1590	777.5		ug/Kg	☼	49	28 - 120
4-Nitrophenol	ND		3180	2052		ug/Kg	☼	65	28 - 123
N-Nitrosodi-n-propylamine	ND		1590	926.5		ug/Kg	☼	58	23 - 120
N-Nitrosodiphenylamine	ND		1590	876.5		ug/Kg	☼	55	30 - 128
Pentachlorophenol	ND		3180	1711		ug/Kg	☼	54	10 - 120
Phenanthrene	ND		1590	870.7		ug/Kg	☼	55	36 - 120
Phenol	ND		1590	898.2		ug/Kg	☼	57	10 - 120
Pyrene	ND		1590	938.8		ug/Kg	☼	59	31 - 134
2,4,5-Trichlorophenol	ND		1590	838.4		ug/Kg	☼	53	35 - 120
2,4,6-Trichlorophenol	ND		1590	863.5		ug/Kg	☼	54	18 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*48*		*34 - 120*
2-Fluorophenol (Surr)	*53*		*20 - 120*
Nitrobenzene-d5 (Surr)	*54*		*25 - 120*
Phenol-d5 (Surr)	*56*		*26 - 120*
Terphenyl-d14 (Surr)	*59*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*59*		*10 - 120*

Lab Sample ID: 240-195265-6 MSD
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: SB-10 (20-23)
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	ND		1590	777.1		ug/Kg	☼	49	33 - 120	4	45
Acenaphthylene	ND		1590	800.5		ug/Kg	☼	50	39 - 120	2	45
Acetophenone	ND		1590	837.8		ug/Kg	☼	53	11 - 120	2	45
Anthracene	ND		1590	917.4		ug/Kg	☼	58	30 - 127	3	45
Atrazine	ND		3180	2059		ug/Kg	☼	65	52 - 126	2	34

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195265-6 MSD
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: SB-10 (20-23)
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzaldehyde	ND		3180	1597		ug/Kg	☼	50	13 - 120	1	45
Benzo[a]anthracene	ND		1590	956.8		ug/Kg	☼	60	24 - 137	3	42
Benzo[a]pyrene	ND		1590	877.6		ug/Kg	☼	55	28 - 136	1	41
Benzo[b]fluoranthene	ND		1590	1029		ug/Kg	☼	65	21 - 142	4	42
Benzo[g,h,i]perylene	ND		1590	1029		ug/Kg	☼	65	10 - 144	0	40
Benzo[k]fluoranthene	ND		1590	947.3		ug/Kg	☼	60	36 - 135	4	44
1,1'-Biphenyl	ND		1590	771.4		ug/Kg	☼	48	29 - 120	1	45
Bis(2-chloroethoxy)methane	ND		1590	818.4		ug/Kg	☼	51	25 - 120	5	45
Bis(2-chloroethyl)ether	ND		1590	826.3		ug/Kg	☼	52	16 - 120	6	45
bis (2-chloroisopropyl) ether	ND		1590	769.1		ug/Kg	☼	48	10 - 120	0	45
Bis(2-ethylhexyl) phthalate	ND		1590	948.6		ug/Kg	☼	60	37 - 143	0	38
4-Bromophenyl phenyl ether	ND		1590	874.8		ug/Kg	☼	55	49 - 120	6	42
Butyl benzyl phthalate	ND		1590	962.9		ug/Kg	☼	61	49 - 130	0	41
Caprolactam	ND		3180	1521		ug/Kg	☼	48	37 - 127	7	45
Carbazole	ND		1590	940.5		ug/Kg	☼	59	33 - 132	1	45
4-Chloroaniline	ND		1590	771.3		ug/Kg	☼	48	10 - 120	4	45
4-Chloro-3-methylphenol	ND		1590	792.9		ug/Kg	☼	50	35 - 120	16	42
2-Chloronaphthalene	ND		1590	757.9		ug/Kg	☼	48	33 - 120	2	45
2-Chlorophenol	ND		1590	844.0		ug/Kg	☼	53	19 - 120	1	45
4-Chlorophenyl phenyl ether	ND		1590	836.1		ug/Kg	☼	53	45 - 120	0	44
Chrysene	ND		1590	899.6		ug/Kg	☼	57	28 - 129	1	42
Dibenz(a,h)anthracene	ND		1590	932.4		ug/Kg	☼	59	10 - 132	1	37
Dibenzofuran	ND		1590	797.6		ug/Kg	☼	50	33 - 120	0	43
3,3'-Dichlorobenzidine	ND		3180	2430		ug/Kg	☼	76	10 - 179	2	45
2,4-Dichlorophenol	ND		1590	820.7		ug/Kg	☼	52	21 - 120	2	44
Diethyl phthalate	ND		1590	918.2		ug/Kg	☼	58	48 - 120	2	38
2,4-Dimethylphenol	ND		1590	614.8		ug/Kg	☼	39	10 - 120	1	45
Dimethyl phthalate	ND	F1	1590	638.1	F1	ug/Kg	☼	40	45 - 120	33	43
Di-n-butyl phthalate	70.9	J B	1590	1006		ug/Kg	☼	59	40 - 137	1	42
4,6-Dinitro-2-methylphenol	ND		3180	631.0		ug/Kg	☼	20	11 - 120	1	40
2,4-Dinitrophenol	ND		3180	432.7		ug/Kg	☼	14	10 - 126	4	45
2,4-Dinitrotoluene	ND		1590	869.4		ug/Kg	☼	55	46 - 120	1	45
2,6-Dinitrotoluene	ND		1590	859.7		ug/Kg	☼	54	44 - 120	4	45
Di-n-octyl phthalate	ND		1590	943.7		ug/Kg	☼	59	34 - 152	1	39
Fluoranthene	ND		1590	938.7		ug/Kg	☼	59	31 - 140	2	45
Fluorene	ND		1590	851.1		ug/Kg	☼	53	43 - 120	3	39
Hexachlorobenzene	ND		1590	864.8		ug/Kg	☼	54	44 - 120	2	39
Hexachlorobutadiene	ND		1590	681.5		ug/Kg	☼	43	13 - 120	1	45
Hexachlorocyclopentadiene	ND		1590	367.1	J	ug/Kg	☼	23	10 - 120	8	45
Hexachloroethane	ND		1590	634.7		ug/Kg	☼	40	10 - 120	7	45
Indeno[1,2,3-cd]pyrene	ND		1590	948.9		ug/Kg	☼	60	10 - 139	3	41
Isophorone	ND		1590	875.1		ug/Kg	☼	55	27 - 120	2	45
2-Methylnaphthalene	ND		1590	761.8		ug/Kg	☼	48	13 - 122	0	45
2-Methylphenol	ND		1590	805.0		ug/Kg	☼	51	12 - 120	1	45
3 & 4 Methylphenol	ND		1590	807.6		ug/Kg	☼	51	10 - 122	3	45
Naphthalene	ND		1590	699.7		ug/Kg	☼	44	10 - 120	3	45
2-Nitroaniline	ND		1590	712.5		ug/Kg	☼	45	36 - 122	30	42
3-Nitroaniline	ND		1590	782.1		ug/Kg	☼	49	10 - 123	5	45
4-Nitroaniline	ND		1590	932.2		ug/Kg	☼	59	13 - 129	1	38

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-195265-6 MSD — **Client Sample ID: SB-10 (20-23)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 594789 — **Prep Batch: 594638**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrobenzene	ND		1590	849.3		ug/Kg	☼	53	19 - 120	2	45
2-Nitrophenol	ND		1590	789.2		ug/Kg	☼	50	28 - 120	2	45
4-Nitrophenol	ND		3180	1977		ug/Kg	☼	62	28 - 123	4	45
N-Nitrosodi-n-propylamine	ND		1590	958.4		ug/Kg	☼	60	23 - 120	3	45
N-Nitrosodiphenylamine	ND		1590	858.6		ug/Kg	☼	54	30 - 128	2	44
Pentachlorophenol	ND		3180	1594		ug/Kg	☼	50	10 - 120	7	45
Phenanthrene	ND		1590	852.0		ug/Kg	☼	54	36 - 120	2	41
Phenol	ND		1590	875.0		ug/Kg	☼	55	10 - 120	3	45
Pyrene	ND		1590	930.6		ug/Kg	☼	58	31 - 134	1	43
2,4,5-Trichlorophenol	ND		1590	823.0		ug/Kg	☼	52	35 - 120	2	39
2,4,6-Trichlorophenol	ND		1590	854.0		ug/Kg	☼	54	18 - 120	1	45

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*47*		*34 - 120*
2-Fluorophenol (Surr)	*53*		*20 - 120*
Nitrobenzene-d5 (Surr)	*53*		*25 - 120*
Phenol-d5 (Surr)	*55*		*26 - 120*
Terphenyl-d14 (Surr)	*59*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*54*		*10 - 120*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-406880/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.65	7.24	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Diesel	ND		9.65	3.85	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Waste Oil	ND		9.65	1.97	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Total Extractable Hydrocarbons	ND		14.5	3.85	mg/Kg		11/22/23 08:57	11/27/23 19:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*12 - 126*	*11/22/23 08:57*	*11/27/23 19:43*	*1*

Lab Sample ID: LCS 310-406880/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel			125	89.64		mg/Kg		72	34 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*91*		*12 - 126*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: 240-195265-1 MS — **Client Sample ID: SB-8 (0-3)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel	ND		162	116.8		mg/Kg	☼	72	12 - 147		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*88*		*12 - 126*

Lab Sample ID: 240-195265-1 MSD — **Client Sample ID: SB-8 (0-3)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel	ND		166	111.8		mg/Kg	☼	68	12 - 147	4	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*79*		*12 - 126*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-594406/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 594619 — **Prep Batch: 594406**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Antimony	ND	^1+	2.00	0.359	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Arsenic	ND		1.50	0.316	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Barium	ND		20.0	0.362	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Calcium	ND		500	36.5	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Chromium	ND		1.00	0.343	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Copper	ND		2.50	0.236	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Iron	ND		20.0	6.94	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Lead	ND		1.00	0.282	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Magnesium	ND		500	15.3	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Manganese	ND		1.50	0.259	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Nickel	ND		4.00	0.496	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Potassium	ND		500	35.8	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Selenium	ND		2.00	0.469	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Silver	ND		1.00	0.0810	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Sodium	ND		500	142	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Thallium	ND		2.00	0.399	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Vanadium	ND		5.00	0.822	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Zinc	ND		5.00	1.37	mg/Kg		11/13/23 15:00	11/14/23 20:10	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-594406/2-A
Matrix: Solid
Analysis Batch: 594619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	928.7		mg/Kg		93	80 - 120
Antimony	100	96.78	^1+	mg/Kg		97	80 - 120
Arsenic	200	191.0		mg/Kg		95	80 - 120
Barium	200	180.1		mg/Kg		90	80 - 120
Beryllium	100	93.74		mg/Kg		94	80 - 120
Cadmium	100	93.65		mg/Kg		94	80 - 120
Calcium	5000	4611		mg/Kg		92	80 - 120
Chromium	100	92.51		mg/Kg		93	80 - 120
Cobalt	100	95.84		mg/Kg		96	80 - 120
Copper	100	90.05		mg/Kg		90	80 - 120
Iron	1000	927.5		mg/Kg		93	80 - 120
Lead	100	91.78		mg/Kg		92	80 - 120
Magnesium	5000	4664		mg/Kg		93	80 - 120
Manganese	100	92.10		mg/Kg		92	80 - 120
Nickel	100	95.65		mg/Kg		96	80 - 120
Potassium	5000	4675		mg/Kg		93	80 - 120
Selenium	200	191.9		mg/Kg		96	80 - 120
Silver	10.0	9.023		mg/Kg		90	80 - 120
Sodium	5000	4618		mg/Kg		92	80 - 120
Thallium	200	179.9		mg/Kg		90	80 - 120
Vanadium	100	93.13		mg/Kg		93	80 - 120
Zinc	100	96.59		mg/Kg		97	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-594408/1-A
Matrix: Solid
Analysis Batch: 594529

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/13/23 15:00	11/14/23 09:33	1

Lab Sample ID: LCS 240-594408/2-A
Matrix: Solid
Analysis Batch: 594529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.7116		mg/Kg		85	80 - 120

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

GC/MS VOA

Prep Batch: 594783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	5035	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	5035	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	5035	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	5035	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	5035	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	5035	

Analysis Batch: 594945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	8260D	594783
240-195265-2	SB-8 (33-35)	Total/NA	Solid	8260D	594783
240-195265-3	SB-9 (0-3)	Total/NA	Solid	8260D	594783
240-195265-4	SB-9 (29-32)	Total/NA	Solid	8260D	594783
240-195265-5	SB-10 (0-3)	Total/NA	Solid	8260D	594783
MB 240-594945/6	Method Blank	Total/NA	Solid	8260D	
LCS 240-594945/4	Lab Control Sample	Total/NA	Solid	8260D	

Analysis Batch: 595108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-6	SB-10 (20-23)	Total/NA	Solid	8260D	594783
MB 240-595108/6	Method Blank	Total/NA	Solid	8260D	
LCS 240-595108/4	Lab Control Sample	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 594638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	3546	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	3546	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	3546	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	3546	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	3546	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	3546	
MB 240-594638/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-594638/2-A	Lab Control Sample	Total/NA	Solid	3546	
240-195265-6 MS	SB-10 (20-23)	Total/NA	Solid	3546	
240-195265-6 MSD	SB-10 (20-23)	Total/NA	Solid	3546	

Analysis Batch: 594789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	8270E	594638
240-195265-2	SB-8 (33-35)	Total/NA	Solid	8270E	594638
240-195265-3	SB-9 (0-3)	Total/NA	Solid	8270E	594638
240-195265-4	SB-9 (29-32)	Total/NA	Solid	8270E	594638
240-195265-5	SB-10 (0-3)	Total/NA	Solid	8270E	594638
240-195265-6	SB-10 (20-23)	Total/NA	Solid	8270E	594638
MB 240-594638/1-A	Method Blank	Total/NA	Solid	8270E	594638
LCS 240-594638/2-A	Lab Control Sample	Total/NA	Solid	8270E	594638
240-195265-6 MS	SB-10 (20-23)	Total/NA	Solid	8270E	594638
240-195265-6 MSD	SB-10 (20-23)	Total/NA	Solid	8270E	594638

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

GC Semi VOA

Prep Batch: 406880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	3546	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	3546	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	3546	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	3546	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	3546	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	3546	
MB 310-406880/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-406880/2-A	Lab Control Sample	Total/NA	Solid	3546	
240-195265-1 MS	SB-8 (0-3)	Total/NA	Solid	3546	
240-195265-1 MSD	SB-8 (0-3)	Total/NA	Solid	3546	

Analysis Batch: 406995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	OA-2	406880
240-195265-2	SB-8 (33-35)	Total/NA	Solid	OA-2	406880
240-195265-3	SB-9 (0-3)	Total/NA	Solid	OA-2	406880
240-195265-4	SB-9 (29-32)	Total/NA	Solid	OA-2	406880
240-195265-5	SB-10 (0-3)	Total/NA	Solid	OA-2	406880
240-195265-6	SB-10 (20-23)	Total/NA	Solid	OA-2	406880
MB 310-406880/1-A	Method Blank	Total/NA	Solid	OA-2	406880
LCS 310-406880/2-A	Lab Control Sample	Total/NA	Solid	OA-2	406880
240-195265-1 MS	SB-8 (0-3)	Total/NA	Solid	OA-2	406880
240-195265-1 MSD	SB-8 (0-3)	Total/NA	Solid	OA-2	406880

Metals

Prep Batch: 594406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	3050B	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	3050B	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	3050B	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	3050B	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	3050B	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	3050B	
MB 240-594406/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-594406/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 594408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	7471B	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	7471B	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	7471B	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	7471B	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	7471B	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	7471B	
MB 240-594408/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-594408/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 594529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	7471B	594408

Metals (Continued)

Analysis Batch: 594529 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-2	SB-8 (33-35)	Total/NA	Solid	7471B	594408
240-195265-3	SB-9 (0-3)	Total/NA	Solid	7471B	594408
240-195265-4	SB-9 (29-32)	Total/NA	Solid	7471B	594408
240-195265-5	SB-10 (0-3)	Total/NA	Solid	7471B	594408
240-195265-6	SB-10 (20-23)	Total/NA	Solid	7471B	594408
MB 240-594408/1-A	Method Blank	Total/NA	Solid	7471B	594408
LCS 240-594408/2-A	Lab Control Sample	Total/NA	Solid	7471B	594408

Analysis Batch: 594619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	6010D	594406
240-195265-2	SB-8 (33-35)	Total/NA	Solid	6010D	594406
240-195265-3	SB-9 (0-3)	Total/NA	Solid	6010D	594406
240-195265-4	SB-9 (29-32)	Total/NA	Solid	6010D	594406
240-195265-5	SB-10 (0-3)	Total/NA	Solid	6010D	594406
240-195265-6	SB-10 (20-23)	Total/NA	Solid	6010D	594406
MB 240-594406/1-A	Method Blank	Total/NA	Solid	6010D	594406
LCS 240-594406/2-A	Lab Control Sample	Total/NA	Solid	6010D	594406

General Chemistry

Analysis Batch: 594376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195265-1	SB-8 (0-3)	Total/NA	Solid	Moisture	
240-195265-2	SB-8 (33-35)	Total/NA	Solid	Moisture	
240-195265-3	SB-9 (0-3)	Total/NA	Solid	Moisture	
240-195265-4	SB-9 (29-32)	Total/NA	Solid	Moisture	
240-195265-5	SB-10 (0-3)	Total/NA	Solid	Moisture	
240-195265-6	SB-10 (20-23)	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-8 (0-3)
Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-8 (0-3)
Date Collected: 11/09/23 09:00
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-1
Matrix: Solid
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	594945	CS	EET CLE	11/17/23 05:29
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 11:44
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 20:43
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:19
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:02

Client Sample ID: SB-8 (33-35)
Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-8 (33-35)
Date Collected: 11/09/23 09:25
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-2
Matrix: Solid
Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	594945	CS	EET CLE	11/17/23 05:53
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 12:08
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 20:58
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:31
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:08

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-9 (0-3)
Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-9 (0-3)
Date Collected: 11/09/23 10:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-3
Matrix: Solid
Percent Solids: 75.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	594945	CS	EET CLE	11/17/23 06:17
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 12:32
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 21:12
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:36
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:10

Client Sample ID: SB-9 (29-32)
Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-9 (29-32)
Date Collected: 11/09/23 11:05
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-4
Matrix: Solid
Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	594945	CS	EET CLE	11/17/23 06:41
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 12:55
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 21:27
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:40
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:12

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Client Sample ID: SB-10 (0-3)
Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-10 (0-3)
Date Collected: 11/09/23 11:45
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-5
Matrix: Solid
Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	594945	CS	EET CLE	11/17/23 07:05
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 13:19
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 21:42
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:45
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:14

Client Sample ID: SB-10 (20-23)
Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SB-10 (20-23)
Date Collected: 11/09/23 12:10
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195265-6
Matrix: Solid
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 08:20
Total/NA	Analysis	8260D		1	595108	CS	EET CLE	11/18/23 05:43
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 13:43
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 21:57
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:49
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:16

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195265-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D	5035	Solid	1,2,4-Trichlorobenzene
8260D	5035	Solid	Cyclohexane
8260D	5035	Solid	Methyl acetate
8260D	5035	Solid	Methylcyclohexane
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-30-24
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

3.5/3.7

eurofins | Environment Testing

Client Information	Sampler: Macy LaMasney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.4
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 4 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested: STD			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N		
SB-8 (0-3)	11/9/23	0900	G	Solid			X	X	X	X	X	X			
SB-8 (33-35)		0925		Solid											
SB-9 (0-3)		1040		Solid											
SB-9 (29-32)		1105		Solid											
~~S-00-1~~ mL 11/9/23		~~1005~~		Solid											
~~S-00-2~~ mL 11/9/23		~~1020~~		Solid											
SB-10 (0-3)		1145		Solid											
SB-10 (20-23)		1210		Solid											
		mL 11/9/23		Solid											No trip blanks provided.
				Solid											
				Solid											

240-195265 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Macy La Masney	Date/Time: 11/9/23 1600	Company: Tetratech	Received by: [signature]	Date/Time: 11-10-23 950	Company: EETIC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative Login # : 195265
Barberton Facility

Client Tetra Tech Site Name _____ Cooler unpacked by: [signature]

Cooler Received on 11-10-23 Opened on 11-11-23

FedEx: 1st Grd (Exp) UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # C Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN # 21 (CF +2.0 °C) Observed Cooler Temp. 3.5 °C Corrected Cooler Temp. 3.7 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   - Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   - Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   - Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes (No)
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes (No)
17. Was a LL Hg or Me Hg trip blank present? _____ Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: 11-11-23 820 AM

240-195265 Waybill

eurofi

vironment Testing
America

RT 164 6 10:30 A 7955 11.10

FZ

966-9677
CY LA MASNEY
INC.
EET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

TO LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203
(330) 312-0176
REF: S240-113665

RMA:

FedEx Express

E

FedEx
TRK# 0221 6549 1095 7955

RETURNS MON-SA

FRI - 10 NOV AA
PRIORITY OVERNIGHT

NX CAKA

44203
OH-US
CLE

4982321 09Nov2023 MPZA 581G5/F0B2/C0RR

eurofins | Environment Testing America

240-195265 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client:	TA Cleveland		
City/State:	CITY	STATE OH	Project:

Receipt Information			
Date/Time Received:	DATE 11/14/23	TIME 855	Received By: SL

Delivery Type: ☐ UPS ☑ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers			
Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☐ Yes	☑ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record					
Coolant:	☑ Wet ice	☐ Blue ice	☐ Dry ice	☐ Other:_____	☐ NONE
Thermometer ID:	P		Correction Factor (°C):	0	

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature	
Uncorrected Temp (°C): N/A	Corrected Temp (°C): —

Sample Container Temperature	CONTAINER 1	CONTAINER 2
Container(s) used:	4oz soil clear	—
Uncorrected Temp (°C):	1.9	2.6
Corrected Temp (°C):	1.9	2.6

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cleveland
180 S Van Buren Avenue
Barberton, OH 44203
Phone 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-176595 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa		Job #: 240-195265-1
Address: 3019 Venture Way, ,	Due Date Requested: 12/4/2023			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	OA2/3546_LVI OA2 Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SB-8 (0-3) (240-195265-1)	11/9/23	09 00 Central		Solid			X	1	
SB-8 (33-35) (240-195265-2)	11/9/23	09:25 Central		Solid			X	1	
SB-9 (0-3) (240-195265-3)	11/9/23	10:40 Central		Solid			X	1	
SB-9 (29-32) (240-195265-4)	11/9/23	11:05 Central		Solid			X	1	
SB-10 (0-3) (240-195265-5)	11/9/23	11 45 Central		Solid			X	1	
SB-10 (20-23) (240-195265-6)	11/9/23	12:10 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date.	Time.	Method of Shipment:

Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Rachelle Hauser	11-13-23 10.10	EETNC			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: SC	Date/Time: 11/14/23 855	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

11/28/2023

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 240-195265-1

Login Number: 195265
List Number: 2
Creator: Lage, Sydney

List Source: Eurofins Cedar Falls
List Creation: 11/14/23 10:54 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 12/8/2023 11:58:27 AM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195376-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
12/8/2023 11:58:27 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-195376-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195376-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/14/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 16 coolers at receipt time were 7.8°C, 10.8°C, 11.5°C, 12.8°C, 14.5°C, 15.0°C, 15.4°C, 15.4°C, 15.6°C, 15.9°C, 16.8°C, 16.9°C, 17.2°C, 18.0°C, 18.2°C and 18.4°C

GC/MS Semi VOA
Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: DU-21-2 (240-195376-26). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-595743 recovered above the upper control limit for Atrazine. The sample(s) associated with this CCV were non-detect for the affected analyte; therefore, the data has been reported. The associated samples are impacted: DU-19-3 (240-195376-21), DU-20-1 (240-195376-22), DU-20-2 (240-195376-23), DU-20-3 (240-195376-24), DU-21-1 (240-195376-25), DU-21-2 (240-195376-26) and DU-21-3 (240-195376-27).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-595725 recovered above the upper control limit for Atrazine, 4-Chloro-3-methylphenol, 4,6-Dinitro-2-methylphenol, Hexachlorocyclopentadiene, Isophorone, 2-Nitroaniline, 4-Nitroaniline, Nitrobenzene, 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: DU-22-1 (240-195376-28), DU-22-2 (240-195376-29), DU-23-1 (240-195376-31), DU-23-2 (240-195376-32) and DU-23-3 (240-195376-33).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-595865 recovered above the upper control limit for Atrazine, 4-Chloro-3-methylphenol, Hexachlorocyclopentadiene, Isophorone, 2-Nitroaniline, 4-Nitroaniline, Nitrobenzene, 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: DU-22-3 (240-195376-30).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596252 recovered outside acceptance criteria, low biased, for Pentachlorophenol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for the analyte, the data has been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596252 recovered above the upper control limit for 2-Nitroaniline, Di-n-butyl phthalate and Atrazine. The samples associated with this CCV were either non-detect or recovered below the reporting limit for the affected analytes; therefore, the data has been reported. The associated samples are impacted: DU-13-1 (240-195376-1), DU-13-2 (240-195376-2), DU-13-3 (240-195376-3), DU-14-2 (240-195376-5), DU-14-3 (240-195376-6), DU-15-1 (240-195376-7), DU-15-2 (240-195376-8), DU-16-1 (240-195376-10), DU-16-2 (240-195376-11), DU-16-3 (240-195376-12), DU-17-2 (240-195376-14), DU-17-3 (240-195376-15), DU-18-1 (240-195376-16), DU-18-2 (240-195376-17), DU-19-1 (240-195376-19) and DU-19-2 (240-195376-20).

Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of

Job ID: 240-195376-1 (Continued)

Laboratory: Eurofins Cleveland (Continued)

surrogate compounds outside limits: DU-16-1 (240-195376-10), DU-16-2 (240-195376-11) and DU-16-3 (240-195376-12). These results have been reported and qualified.

Method 8270E: Surrogate recovery for the following samples were outside control limits: DU-23-1 (240-195376-31), DU-23-2 (240-195376-32) and DU-23-3 (240-195376-33). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: DU-17-1 (240-195376-13) and DU-23-2 (240-195376-32). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596471 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples: DU-14-1 (240-195376-4), DU-17-1 (240-195376-13), DU-23-1 (240-195376-31), DU-23-2 (240-195376-32) and DU-23-3 (240-195376-33) were non-detect for the analyte, the data has been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596471 recovered above the upper control limit for 3,3'-Dichlorobenzidine, 4-Nitrophenol, Atrazine, Di-n-butyl phthalate and Hexachlorobenzene. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data has been reported. The associated samples are impacted: DU-14-1 (240-195376-4), DU-17-1 (240-195376-13), DU-23-1 (240-195376-31), DU-23-2 (240-195376-32) and DU-23-3 (240-195376-33).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596957 recovered above the upper control limit for Atrazine, 4-Nitroaniline and 2,4,6-Trichlorophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: DU-15-3 (240-195376-9).

Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: DU-15-3 (240-195376-9). These results have been reported and qualified.

Method 8270E: Reanalysis of the following sample was performed outside of the analytical holding time due low surrogate recoveries in the initial run. Both sets of data are reported: DU-15-3 (240-195376-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 6010D: The following sample was diluted due to the nature of the sample matrix: DU-13-1 (240-195376-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Method	Method Description	Protocol	Laboratory
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE
Increment, prep	ISM - Dry, Disaggregate, Sieve, 2 D Slabcake Subsample	EPA	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195376-1	DU-13-1	Solid	11/09/23 17:15	11/14/23 10:00
240-195376-2	DU-13-2	Solid	11/09/23 17:25	11/14/23 10:00
240-195376-3	DU-13-3	Solid	11/09/23 17:35	11/14/23 10:00
240-195376-4	DU-14-1	Solid	11/10/23 08:25	11/14/23 10:00
240-195376-5	DU-14-2	Solid	11/10/23 08:35	11/14/23 10:00
240-195376-6	DU-14-3	Solid	11/10/23 08:45	11/14/23 10:00
240-195376-7	DU-15-1	Solid	11/10/23 08:55	11/14/23 10:00
240-195376-8	DU-15-2	Solid	11/10/23 09:05	11/14/23 10:00
240-195376-9	DU-15-3	Solid	11/10/23 09:15	11/14/23 10:00
240-195376-10	DU-16-1	Solid	11/10/23 09:25	11/14/23 10:00
240-195376-11	DU-16-2	Solid	11/10/23 09:35	11/14/23 10:00
240-195376-12	DU-16-3	Solid	11/10/23 09:45	11/14/23 10:00
240-195376-13	DU-17-1	Solid	11/10/23 10:05	11/14/23 10:00
240-195376-14	DU-17-2	Solid	11/10/23 10:15	11/14/23 10:00
240-195376-15	DU-17-3	Solid	11/10/23 10:25	11/14/23 10:00
240-195376-16	DU-18-1	Solid	11/10/23 11:15	11/14/23 10:00
240-195376-17	DU-18-2	Solid	11/10/23 11:25	11/14/23 10:00
240-195376-18	DU-18-3	Solid	11/10/23 11:35	11/14/23 10:00
240-195376-19	DU-19-1	Solid	11/10/23 12:50	11/14/23 10:00
240-195376-20	DU-19-2	Solid	11/10/23 13:00	11/14/23 10:00
240-195376-21	DU-19-3	Solid	11/10/23 13:10	11/14/23 10:00
240-195376-22	DU-20-1	Solid	11/09/23 14:10	11/14/23 10:00
240-195376-23	DU-20-2	Solid	11/09/23 14:20	11/14/23 10:00
240-195376-24	DU-20-3	Solid	11/09/23 14:30	11/14/23 10:00
240-195376-25	DU-21-1	Solid	11/10/23 14:40	11/14/23 10:00
240-195376-26	DU-21-2	Solid	11/10/23 14:50	11/14/23 10:00
240-195376-27	DU-21-3	Solid	11/10/23 15:00	11/14/23 10:00
240-195376-28	DU-22-1	Solid	11/10/23 15:15	11/14/23 10:00
240-195376-29	DU-22-2	Solid	11/10/23 15:25	11/14/23 10:00
240-195376-30	DU-22-3	Solid	11/10/23 15:35	11/14/23 10:00
240-195376-31	DU-23-1	Solid	11/10/23 15:45	11/14/23 10:00
240-195376-32	DU-23-2	Solid	11/10/23 15:55	11/14/23 10:00
240-195376-33	DU-23-3	Solid	11/10/23 16:05	11/14/23 10:00

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-1 — Lab Sample ID: 240-195376-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	16.2	J	41.1	14.4	ug/Kg	1	☼	8270E	Total/NA
Anthracene	97.7		41.1	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	630		41.1	15.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	560		41.1	14.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	648		41.1	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	596		41.1	27.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	163		41.1	10.3	ug/Kg	1	☼	8270E	Total/NA
Bis(2-ethylhexyl) phthalate	65.0	J	154	57.5	ug/Kg	1	☼	8270E	Total/NA
Carbazole	70.8	J	103	27.7	ug/Kg	1	☼	8270E	Total/NA
Chrysene	977		41.1	14.4	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	293		41.1	15.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	500		41.1	14.4	ug/Kg	1	☼	8270E	Total/NA
Fluorene	21.8	J	41.1	14.4	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	255		41.1	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	227		41.1	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	128		41.1	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	672		41.1	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	714		41.1	16.4	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9780		19.2	5.12	mg/Kg	1	☼	6010D	Total/NA
Antimony	1.10	J	1.92	0.345	mg/Kg	1	☼	6010D	Total/NA
Arsenic	9.39		2.88	0.607	mg/Kg	2	☼	6010D	Total/NA
Barium	228		19.2	0.348	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.670		0.480	0.0519	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.643		0.480	0.0461	mg/Kg	1	☼	6010D	Total/NA
Calcium	11600		480	35.0	mg/Kg	1	☼	6010D	Total/NA
Chromium	27.7		0.960	0.329	mg/Kg	1	☼	6010D	Total/NA
Cobalt	19.8		0.960	0.0711	mg/Kg	1	☼	6010D	Total/NA
Copper	17.8		2.40	0.227	mg/Kg	1	☼	6010D	Total/NA
Iron	18500		19.2	6.67	mg/Kg	1	☼	6010D	Total/NA
Lead	42.6		0.960	0.271	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2960		480	14.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	1720		2.88	0.497	mg/Kg	2	☼	6010D	Total/NA
Nickel	34.1		3.84	0.476	mg/Kg	1	☼	6010D	Total/NA
Potassium	784		480	34.3	mg/Kg	1	☼	6010D	Total/NA
Silver	0.131	J B	0.960	0.0778	mg/Kg	1	☼	6010D	Total/NA
Vanadium	32.2		4.80	0.789	mg/Kg	1	☼	6010D	Total/NA
Zinc	69.0		4.80	1.31	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0301	J	0.105	0.0190	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-13-2 — Lab Sample ID: 240-195376-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	37.2	J	39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Anthracene	165		39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	804		39.9	15.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	786		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	856		39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	845		39.9	26.9	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	264		39.9	9.98	ug/Kg	1	☼	8270E	Total/NA
Bis(2-ethylhexyl) phthalate	106	J	150	55.9	ug/Kg	1	☼	8270E	Total/NA
Carbazole	107		99.8	26.9	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-13-2 (Continued) — Lab Sample ID: 240-195376-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	1120		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	444		39.9	15.0	ug/Kg	1	☼	8270E	Total/NA
Dibenzofuran	29.2	J	99.8	28.9	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	28.3	J	150	23.9	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	796		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Fluorene	38.6	J	39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	358		39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	288		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	176		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	791		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Pyrene	902		39.9	16.0	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7020		15.8	4.22	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.29		1.19	0.250	mg/Kg	1	☼	6010D	Total/NA
Barium	123		15.8	0.286	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.426		0.395	0.0427	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.478		0.395	0.0379	mg/Kg	1	☼	6010D	Total/NA
Calcium	28300		395	28.8	mg/Kg	1	☼	6010D	Total/NA
Chromium	38.7		0.790	0.271	mg/Kg	1	☼	6010D	Total/NA
Cobalt	10.7		0.790	0.0585	mg/Kg	1	☼	6010D	Total/NA
Copper	24.9		1.98	0.187	mg/Kg	1	☼	6010D	Total/NA
Iron	17000		15.8	5.49	mg/Kg	1	☼	6010D	Total/NA
Lead	24.1		0.790	0.223	mg/Kg	1	☼	6010D	Total/NA
Magnesium	4290		395	12.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	627		1.19	0.205	mg/Kg	1	☼	6010D	Total/NA
Nickel	49.0		3.16	0.392	mg/Kg	1	☼	6010D	Total/NA
Potassium	582		395	28.3	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.545	J	1.58	0.371	mg/Kg	1	☼	6010D	Total/NA
Vanadium	20.8		3.95	0.650	mg/Kg	1	☼	6010D	Total/NA
Zinc	63.6		3.95	1.08	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0254	J	0.114	0.0206	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-13-3 — Lab Sample ID: 240-195376-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	248		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Anthracene	611		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzaldehyde	68.6	J	336	57.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	1850		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	1650		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	2210		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	1360		40.8	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	705		40.8	10.2	ug/Kg	1	☼	8270E	Total/NA
1,1'-Biphenyl	48.1	J	102	28.5	ug/Kg	1	☼	8270E	Total/NA
Bis(2-ethylhexyl) phthalate	95.2	J	153	57.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	356		102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene	2180		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	715		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Dibenzofuran	193		102	29.6	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	2970		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene	257		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	762		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-13-3 (Continued) — Lab Sample ID: 240-195376-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	540		40.8	13.2	ug/Kg	1	☼	8270E	Total/NA
3 & 4 Methylphenol	47.9	J	408	41.8	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	588		40.8	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	2620		40.8	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	2690		40.8	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7090		16.4	4.36	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.01		1.23	0.258	mg/Kg	1	☼	6010D	Total/NA
Barium	97.2		16.4	0.296	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.363	J	0.409	0.0442	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.454		0.409	0.0393	mg/Kg	1	☼	6010D	Total/NA
Calcium	36400		409	29.8	mg/Kg	1	☼	6010D	Total/NA
Chromium	43.4		0.818	0.281	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.10		0.818	0.0605	mg/Kg	1	☼	6010D	Total/NA
Copper	26.7		2.04	0.193	mg/Kg	1	☼	6010D	Total/NA
Iron	20700		16.4	5.68	mg/Kg	1	☼	6010D	Total/NA
Lead	21.7		0.818	0.231	mg/Kg	1	☼	6010D	Total/NA
Magnesium	5260		409	12.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	396		1.23	0.212	mg/Kg	1	☼	6010D	Total/NA
Nickel	53.4		3.27	0.406	mg/Kg	1	☼	6010D	Total/NA
Potassium	597		409	29.3	mg/Kg	1	☼	6010D	Total/NA
Vanadium	19.7		4.09	0.672	mg/Kg	1	☼	6010D	Total/NA
Zinc	76.1		4.09	1.12	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0232	J	0.108	0.0195	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-14-1 — Lab Sample ID: 240-195376-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	54.8		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	360		40.3	15.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	289		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	335		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	380		40.3	27.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	54.9		40.3	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	42.5	J	101	27.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	701		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	157		40.3	15.1	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	191		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	161		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	143		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	79.3		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	748		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA
Pyrene	450		40.3	16.1	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9770		18.6	4.97	mg/Kg	1	☼	6010D	Total/NA
Antimony	1.19	J	1.86	0.335	mg/Kg	1	☼	6010D	Total/NA
Arsenic	9.79		1.40	0.294	mg/Kg	1	☼	6010D	Total/NA
Barium	202		18.6	0.337	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.620		0.466	0.0503	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.339	J	0.466	0.0447	mg/Kg	1	☼	6010D	Total/NA
Calcium	9590		466	34.0	mg/Kg	1	☼	6010D	Total/NA
Chromium	17.4		0.932	0.320	mg/Kg	1	☼	6010D	Total/NA
Cobalt	12.1		0.932	0.0690	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-14-1 (Continued) — Lab Sample ID: 240-195376-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	12.9		2.33	0.220	mg/Kg	1	☼	6010D	Total/NA
Iron	16300		18.6	6.47	mg/Kg	1	☼	6010D	Total/NA
Lead	52.1		0.932	0.263	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1840		466	14.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	1300		6.99	1.21	mg/Kg	5	☼	6010D	Total/NA
Nickel	16.6		3.73	0.462	mg/Kg	1	☼	6010D	Total/NA
Potassium	793		466	33.3	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.936	J	1.86	0.437	mg/Kg	1	☼	6010D	Total/NA
Silver	0.0803	J B	0.932	0.0755	mg/Kg	1	☼	6010D	Total/NA
Vanadium	34.5		4.66	0.766	mg/Kg	1	☼	6010D	Total/NA
Zinc	63.8		4.66	1.27	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0360	J	0.122	0.0219	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-14-2 — Lab Sample ID: 240-195376-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	58.1		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	427		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	355		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	392		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	402		41.0	27.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	66.1		41.0	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole	51.5	J	102	27.7	ug/Kg	1	☼	8270E	Total/NA
Chrysene	815		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	173		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	232		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene	16.9	J	41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	166		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	170		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	94.5		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	834		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	587		41.0	16.4	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9490		14.5	3.86	mg/Kg	1	☼	6010D	Total/NA
Antimony	1.19	J F1	1.45	0.260	mg/Kg	1	☼	6010D	Total/NA
Arsenic	8.19		1.09	0.229	mg/Kg	1	☼	6010D	Total/NA
Barium	178		14.5	0.262	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.585		0.362	0.0391	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.330	J	0.362	0.0348	mg/Kg	1	☼	6010D	Total/NA
Calcium	9320		362	26.4	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.0		0.724	0.248	mg/Kg	1	☼	6010D	Total/NA
Cobalt	11.6		0.724	0.0536	mg/Kg	1	☼	6010D	Total/NA
Copper	13.5		1.81	0.171	mg/Kg	1	☼	6010D	Total/NA
Iron	14700		14.5	5.03	mg/Kg	1	☼	6010D	Total/NA
Lead	42.2		0.724	0.204	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1820		362	11.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	1030		5.43	0.938	mg/Kg	5	☼	6010D	Total/NA
Nickel	15.7		2.90	0.359	mg/Kg	1	☼	6010D	Total/NA
Potassium	799		362	25.9	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.997	J	1.45	0.340	mg/Kg	1	☼	6010D	Total/NA
Vanadium	30.5		3.62	0.595	mg/Kg	1	☼	6010D	Total/NA
Zinc	65.4		3.62	0.990	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-14-2 (Continued) — Lab Sample ID: 240-195376-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.0381	J	0.107	0.0193	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-14-3 — Lab Sample ID: 240-195376-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	49.9		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	359		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	276		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	303		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	318		40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	49.8		40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole	42.6	J	102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene	666		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	141		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	167		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene	15.0	J	40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	141		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	135		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	74.4		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	674		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	493		40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	8600		14.9	3.98	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.709	J	1.49	0.268	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.79		1.12	0.236	mg/Kg	1	☼	6010D	Total/NA
Barium	145		14.9	0.270	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.556		0.373	0.0403	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.272	J	0.373	0.0358	mg/Kg	1	☼	6010D	Total/NA
Calcium	9660		373	27.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	15.1		0.746	0.256	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.72		0.746	0.0552	mg/Kg	1	☼	6010D	Total/NA
Copper	11.5		1.86	0.176	mg/Kg	1	☼	6010D	Total/NA
Iron	13300		14.9	5.18	mg/Kg	1	☼	6010D	Total/NA
Lead	40.7		0.746	0.210	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1670		373	11.4	mg/Kg	1	☼	6010D	Total/NA
Manganese	686		1.12	0.193	mg/Kg	1	☼	6010D	Total/NA
Nickel	13.5		2.98	0.370	mg/Kg	1	☼	6010D	Total/NA
Potassium	793		373	26.7	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.853	J	1.49	0.350	mg/Kg	1	☼	6010D	Total/NA
Vanadium	29.4		3.73	0.613	mg/Kg	1	☼	6010D	Total/NA
Zinc	56.1		3.73	1.02	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0337	J	0.105	0.0190	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-15-1 — Lab Sample ID: 240-195376-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	489		81.8	28.6	ug/Kg	2	☼	8270E	Total/NA
Anthracene	911		81.8	24.5	ug/Kg	2	☼	8270E	Total/NA
Benzo[a]anthracene	1820		81.8	30.7	ug/Kg	2	☼	8270E	Total/NA
Benzo[a]pyrene	1670		81.8	28.6	ug/Kg	2	☼	8270E	Total/NA
Benzo[b]fluoranthene	2460		81.8	24.5	ug/Kg	2	☼	8270E	Total/NA
Benzo[g,h,i]perylene	1390		81.8	55.2	ug/Kg	2	☼	8270E	Total/NA
Benzo[k]fluoranthene	750		81.8	20.4	ug/Kg	2	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-15-1 (Continued) — Lab Sample ID: 240-195376-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbazole	445		204	55.2	ug/Kg	2	☼	8270E	Total/NA
Chrysene	2020		81.8	28.6	ug/Kg	2	☼	8270E	Total/NA
Dibenz(a,h)anthracene	374		81.8	30.7	ug/Kg	2	☼	8270E	Total/NA
Dibenzofuran	289		204	59.3	ug/Kg	2	☼	8270E	Total/NA
Fluoranthene	4680		81.8	28.6	ug/Kg	2	☼	8270E	Total/NA
Fluorene	461		81.8	28.6	ug/Kg	2	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	931		81.8	24.5	ug/Kg	2	☼	8270E	Total/NA
2-Methylnaphthalene	150		81.8	26.6	ug/Kg	2	☼	8270E	Total/NA
Naphthalene	264		81.8	26.6	ug/Kg	2	☼	8270E	Total/NA
Phenanthrene	3990		81.8	26.6	ug/Kg	2	☼	8270E	Total/NA
Pyrene	3930		81.8	32.7	ug/Kg	2	☼	8270E	Total/NA
Aluminum	8100		16.2	4.32	mg/Kg	1	☼	6010D	Total/NA
Antimony	2.50		1.62	0.291	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.26		1.22	0.256	mg/Kg	1	☼	6010D	Total/NA
Barium	157		16.2	0.293	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.480		0.405	0.0438	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.554		0.405	0.0389	mg/Kg	1	☼	6010D	Total/NA
Calcium	10900		405	29.5	mg/Kg	1	☼	6010D	Total/NA
Chromium	14.2		0.811	0.278	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.84		0.811	0.0600	mg/Kg	1	☼	6010D	Total/NA
Copper	22.3		2.03	0.191	mg/Kg	1	☼	6010D	Total/NA
Iron	13000		16.2	5.63	mg/Kg	1	☼	6010D	Total/NA
Lead	112		0.811	0.229	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2210		405	12.4	mg/Kg	1	☼	6010D	Total/NA
Manganese	612		1.22	0.210	mg/Kg	1	☼	6010D	Total/NA
Nickel	12.9		3.24	0.402	mg/Kg	1	☼	6010D	Total/NA
Potassium	810		405	29.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.799	J	1.62	0.380	mg/Kg	1	☼	6010D	Total/NA
Silver	0.0683	J B	0.811	0.0657	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.3		4.05	0.666	mg/Kg	1	☼	6010D	Total/NA
Zinc	143		4.05	1.11	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0598	J	0.0922	0.0166	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-15-2 — Lab Sample ID: 240-195376-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	211		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Anthracene	476		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	1420		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	1150		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	1600		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	1040		40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	457		40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
1,1'-Biphenyl	38.5	J	102	28.5	ug/Kg	1	☼	8270E	Total/NA
Carbazole	255		102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene	1820		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	361		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Dibenzofuran	152		102	29.5	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	2500		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Fluorene	226		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	602		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-15-2 (Continued) — Lab Sample ID: 240-195376-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	252		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	243		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	2690		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	2530		40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7070		17.1	4.57	mg/Kg	1	☼	6010D	Total/NA
Antimony	3.50		1.71	0.308	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.82		1.29	0.271	mg/Kg	1	☼	6010D	Total/NA
Barium	143		17.1	0.310	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.461		0.429	0.0463	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.930		0.429	0.0411	mg/Kg	1	☼	6010D	Total/NA
Calcium	16300		429	31.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	14.0		0.857	0.294	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.33		0.857	0.0634	mg/Kg	1	☼	6010D	Total/NA
Copper	25.1		2.14	0.202	mg/Kg	1	☼	6010D	Total/NA
Iron	12800		17.1	5.95	mg/Kg	1	☼	6010D	Total/NA
Lead	152		0.857	0.242	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1870		429	13.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	572		1.29	0.222	mg/Kg	1	☼	6010D	Total/NA
Nickel	12.6		3.43	0.425	mg/Kg	1	☼	6010D	Total/NA
Potassium	748		429	30.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.805	J	1.71	0.402	mg/Kg	1	☼	6010D	Total/NA
Silver	0.0927	J B	0.857	0.0694	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.9		4.29	0.704	mg/Kg	1	☼	6010D	Total/NA
Zinc	196		4.29	1.17	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0696	J	0.110	0.0198	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-15-3 — Lab Sample ID: 240-195376-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	106		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Anthracene	210		40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	516		40.4	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	509		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	554		40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	454		40.4	27.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	172		40.4	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	91.9	J	101	27.3	ug/Kg	1	☼	8270E	Total/NA
Chrysene	784		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	138		40.4	15.2	ug/Kg	1	☼	8270E	Total/NA
Dibenzofuran	59.6	J	101	29.3	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	39.4	J	152	24.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	994		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Fluorene	89.6		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	243		40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	120		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	81.4		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	1170		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA
Pyrene	1040		40.4	16.2	ug/Kg	1	☼	8270E	Total/NA
Acenaphthene - RE	66.4	H	40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Anthracene - RE	197	H	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene - RE	607	H	40.6	15.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-15-3 (Continued) — Lab Sample ID: 240-195376-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene - RE	564	H	40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene - RE	597	H	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene - RE	546	H	40.6	27.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene - RE	140	H	40.6	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole - RE	107	H	102	27.4	ug/Kg	1	☼	8270E	Total/NA
Chrysene - RE	1030	H	40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene - RE	193	H	40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Dibenzofuran - RE	60.6	J H	102	29.4	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate - RE	41.0	J H B	152	24.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene - RE	752	H	40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Fluorene - RE	84.4	H	40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene - RE	251	H	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene - RE	195	H	40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene - RE	121	H	40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene - RE	1300	H	40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene - RE	993	H	40.6	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7090		14.3	3.82	mg/Kg	1	☼	6010D	Total/NA
Antimony	3.22		1.43	0.257	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.93		1.07	0.226	mg/Kg	1	☼	6010D	Total/NA
Barium	159		14.3	0.259	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.473		0.358	0.0387	mg/Kg	1	☼	6010D	Total/NA
Cadmium	1.47		0.358	0.0344	mg/Kg	1	☼	6010D	Total/NA
Calcium	17100		358	26.1	mg/Kg	1	☼	6010D	Total/NA
Chromium	14.8		0.716	0.246	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.04		0.716	0.0530	mg/Kg	1	☼	6010D	Total/NA
Copper	18.4		1.79	0.169	mg/Kg	1	☼	6010D	Total/NA
Iron	11800		14.3	4.97	mg/Kg	1	☼	6010D	Total/NA
Lead	158		0.716	0.202	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1530		358	10.9	mg/Kg	1	☼	6010D	Total/NA
Manganese	808		5.37	0.927	mg/Kg	5	☼	6010D	Total/NA
Nickel	13.7		2.86	0.355	mg/Kg	1	☼	6010D	Total/NA
Potassium	755		358	25.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	1.00	J	1.43	0.336	mg/Kg	1	☼	6010D	Total/NA
Silver	0.0827	J B	0.716	0.0580	mg/Kg	1	☼	6010D	Total/NA
Vanadium	25.6		3.58	0.588	mg/Kg	1	☼	6010D	Total/NA
Zinc	195		3.58	0.979	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0477	J	0.117	0.0210	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-16-1 — Lab Sample ID: 240-195376-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	36.5	J	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	251		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	211		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	208		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	250		40.6	27.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	39.2	J	40.6	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	31.4	J	101	27.4	ug/Kg	1	☼	8270E	Total/NA
Chrysene	489		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	106		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	117		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-16-1 (Continued) — Lab Sample ID: 240-195376-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Indeno[1,2,3-cd]pyrene	108		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	98.1		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	50.2		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	541		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	359		40.6	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	6210		15.0	4.00	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.745	J	1.50	0.269	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.56		1.12	0.237	mg/Kg	1	☼	6010D	Total/NA
Barium	129		15.0	0.271	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.464		0.375	0.0405	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.197	J	0.375	0.0360	mg/Kg	1	☼	6010D	Total/NA
Calcium	6550		375	27.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	11.2		0.749	0.257	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.06		0.749	0.0555	mg/Kg	1	☼	6010D	Total/NA
Copper	8.36		1.87	0.177	mg/Kg	1	☼	6010D	Total/NA
Iron	10700		15.0	5.20	mg/Kg	1	☼	6010D	Total/NA
Lead	32.9		0.749	0.211	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1380		375	11.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	716		1.12	0.194	mg/Kg	1	☼	6010D	Total/NA
Nickel	10.0		3.00	0.372	mg/Kg	1	☼	6010D	Total/NA
Potassium	522		375	26.8	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.760	J	1.50	0.351	mg/Kg	1	☼	6010D	Total/NA
Vanadium	25.3		3.75	0.616	mg/Kg	1	☼	6010D	Total/NA
Zinc	38.8		3.75	1.02	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0244	J	0.0906	0.0163	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-16-2 — Lab Sample ID: 240-195376-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	26.7	J	40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	180		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	149		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	143		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	178		40.8	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	35.4	J	40.8	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	350		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	69.8		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	89.6		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	75.9		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	69.0		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	41.5		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	366		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	262		40.8	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7550		16.1	4.30	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.616	J	1.61	0.289	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.85		1.21	0.255	mg/Kg	1	☼	6010D	Total/NA
Barium	145		16.1	0.292	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.529		0.403	0.0435	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.255	J	0.403	0.0387	mg/Kg	1	☼	6010D	Total/NA
Calcium	5870		403	29.4	mg/Kg	1	☼	6010D	Total/NA
Chromium	13.6		0.806	0.276	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-16-2 (Continued) — Lab Sample ID: 240-195376-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	8.44		0.806	0.0596	mg/Kg	1	☼	6010D	Total/NA
Copper	10.7		2.01	0.190	mg/Kg	1	☼	6010D	Total/NA
Iron	12000		16.1	5.59	mg/Kg	1	☼	6010D	Total/NA
Lead	33.6		0.806	0.227	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1650		403	12.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	709		1.21	0.209	mg/Kg	1	☼	6010D	Total/NA
Nickel	13.7		3.22	0.400	mg/Kg	1	☼	6010D	Total/NA
Potassium	675		403	28.8	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.980	J	1.61	0.378	mg/Kg	1	☼	6010D	Total/NA
Vanadium	25.6		4.03	0.662	mg/Kg	1	☼	6010D	Total/NA
Zinc	48.9		4.03	1.10	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0296	J	0.0967	0.0174	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-16-3 — Lab Sample ID: 240-195376-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	23.0	J	41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	152		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	131		41.0	14.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	123		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	150		41.0	27.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	29.2	J	41.0	10.3	ug/Kg	1	☼	8270E	Total/NA
Chrysene	290		41.0	14.4	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	65.4		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	71.4		41.0	14.4	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	67.6		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	57.2		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
3 & 4 Methylphenol	45.2	J	410	42.0	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	34.1	J	41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	304		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	212		41.0	16.4	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7510		15.3	4.08	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.561	J	1.53	0.274	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.81		1.15	0.242	mg/Kg	1	☼	6010D	Total/NA
Barium	129		15.3	0.277	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.499		0.382	0.0413	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.236	J	0.382	0.0367	mg/Kg	1	☼	6010D	Total/NA
Calcium	7540		382	27.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	14.0		0.764	0.262	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.05		0.764	0.0566	mg/Kg	1	☼	6010D	Total/NA
Copper	11.0		1.91	0.180	mg/Kg	1	☼	6010D	Total/NA
Iron	11800		15.3	5.31	mg/Kg	1	☼	6010D	Total/NA
Lead	25.6		0.764	0.216	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2150		382	11.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	468		1.15	0.198	mg/Kg	1	☼	6010D	Total/NA
Nickel	14.5		3.06	0.379	mg/Kg	1	☼	6010D	Total/NA
Potassium	750		382	27.3	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.594	J	1.53	0.358	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.0		3.82	0.628	mg/Kg	1	☼	6010D	Total/NA
Zinc	49.7		3.82	1.04	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0265	J	0.109	0.0196	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-1 — Lab Sample ID: 240-195376-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	19.5	J	40.5	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	123		40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	122		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	97.8		40.5	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	141		40.5	27.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	20.1	J	40.5	10.1	ug/Kg	1	☼	8270E	Total/NA
Chrysene	252		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	55.4		40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	53.2		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	57.6		40.5	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	58.7		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	33.3	J	40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	305		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	170		40.5	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	6350		14.8	3.93	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.601	J	1.48	0.265	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.70		1.11	0.233	mg/Kg	1	☼	6010D	Total/NA
Barium	125		14.8	0.267	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.472		0.369	0.0398	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.191	J	0.369	0.0354	mg/Kg	1	☼	6010D	Total/NA
Calcium	3090		369	26.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	10.9		0.738	0.253	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.98		0.738	0.0546	mg/Kg	1	☼	6010D	Total/NA
Copper	8.23		1.84	0.174	mg/Kg	1	☼	6010D	Total/NA
Iron	11000		14.8	5.12	mg/Kg	1	☼	6010D	Total/NA
Lead	26.9		0.738	0.208	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1150		369	11.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	642		1.11	0.191	mg/Kg	1	☼	6010D	Total/NA
Nickel	9.30		2.95	0.366	mg/Kg	1	☼	6010D	Total/NA
Potassium	604		369	26.4	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.820	J	1.48	0.346	mg/Kg	1	☼	6010D	Total/NA
Vanadium	25.7		3.69	0.606	mg/Kg	1	☼	6010D	Total/NA
Zinc	36.9		3.69	1.01	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0198	J	0.0892	0.0160	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-17-2 — Lab Sample ID: 240-195376-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	25.5	J	40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	169		40.4	15.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	139		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	135		40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	161		40.4	27.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	27.8	J	40.4	10.1	ug/Kg	1	☼	8270E	Total/NA
Chrysene	357		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	70.4		40.4	15.1	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	64.9		40.4	14.1	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	70.4		40.4	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	80.5		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	42.2		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	372		40.4	13.1	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-17-2 (Continued) — Lab Sample ID: 240-195376-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	241		40.4	16.1	ug/Kg	1	☼	8270E	Total/NA
Aluminum	6780		15.7	4.18	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.300	J	1.57	0.282	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.85		1.18	0.248	mg/Kg	1	☼	6010D	Total/NA
Barium	121		15.7	0.284	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.466		0.392	0.0423	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.160	J	0.392	0.0376	mg/Kg	1	☼	6010D	Total/NA
Calcium	2990		392	28.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	11.2		0.784	0.269	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.14		0.784	0.0580	mg/Kg	1	☼	6010D	Total/NA
Copper	7.91		1.96	0.185	mg/Kg	1	☼	6010D	Total/NA
Iron	10500		15.7	5.44	mg/Kg	1	☼	6010D	Total/NA
Lead	25.0		0.784	0.221	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1190		392	12.0	mg/Kg	1	☼	6010D	Total/NA
Manganese	564		1.18	0.203	mg/Kg	1	☼	6010D	Total/NA
Nickel	9.08		3.14	0.389	mg/Kg	1	☼	6010D	Total/NA
Potassium	563		392	28.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.525	J	1.57	0.368	mg/Kg	1	☼	6010D	Total/NA
Vanadium	24.3		3.92	0.645	mg/Kg	1	☼	6010D	Total/NA
Zinc	36.1		3.92	1.07	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0190	J	0.103	0.0185	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-17-3 — Lab Sample ID: 240-195376-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	26.5	J	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	169		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	141		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	143		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	160		40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	19.3	J	40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	350		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	75.9		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	67.7		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	70.7		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	70.5		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	40.3	J	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	374		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	242		40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7050		17.7	4.71	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.402	J	1.77	0.317	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.29		1.32	0.279	mg/Kg	1	☼	6010D	Total/NA
Barium	152		17.7	0.320	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.513		0.441	0.0477	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.170	J	0.441	0.0424	mg/Kg	1	☼	6010D	Total/NA
Calcium	3200		441	32.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.0		0.883	0.303	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.68		0.883	0.0653	mg/Kg	1	☼	6010D	Total/NA
Copper	8.36		2.21	0.208	mg/Kg	1	☼	6010D	Total/NA
Iron	12100		17.7	6.13	mg/Kg	1	☼	6010D	Total/NA
Lead	26.0		0.883	0.249	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-17-3 (Continued) — Lab Sample ID: 240-195376-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	1250		441	13.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	968		6.62	1.14	mg/Kg	5	☼	6010D	Total/NA
Nickel	10.4		3.53	0.438	mg/Kg	1	☼	6010D	Total/NA
Potassium	542		441	31.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.687	J	1.77	0.414	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.7		4.41	0.726	mg/Kg	1	☼	6010D	Total/NA
Zinc	36.6		4.41	1.21	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0182	J	0.0945	0.0170	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-18-1 — Lab Sample ID: 240-195376-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	31.1	J	40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	208		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	161		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	163		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	194		40.8	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	24.5	J	40.8	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	404		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	83.4		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	83.9		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	79.6		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	84.8		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	42.7		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	425		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	289		40.8	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	8380		20.3	5.41	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.80		1.52	0.321	mg/Kg	1	☼	6010D	Total/NA
Barium	132		20.3	0.367	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.530		0.507	0.0548	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.198	J	0.507	0.0487	mg/Kg	1	☼	6010D	Total/NA
Calcium	3970		507	37.0	mg/Kg	1	☼	6010D	Total/NA
Chromium	13.4		1.01	0.348	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.37		1.01	0.0751	mg/Kg	1	☼	6010D	Total/NA
Copper	9.41		2.54	0.239	mg/Kg	1	☼	6010D	Total/NA
Iron	11100		20.3	7.04	mg/Kg	1	☼	6010D	Total/NA
Lead	25.4		1.01	0.286	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1470		507	15.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	627		1.52	0.263	mg/Kg	1	☼	6010D	Total/NA
Nickel	11.4		4.06	0.503	mg/Kg	1	☼	6010D	Total/NA
Potassium	720		507	36.3	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.756	J	2.03	0.476	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.4		5.07	0.834	mg/Kg	1	☼	6010D	Total/NA
Zinc	42.8		5.07	1.39	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0491	J	0.105	0.0189	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-18-2 — Lab Sample ID: 240-195376-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	34.5	J	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	216		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	180		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-18-2 (Continued) — Lab Sample ID: 240-195376-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	199		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	221		40.6	27.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	27.4	J	40.6	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	30.4	J	101	27.4	ug/Kg	1	☼	8270E	Total/NA
Chrysene	455		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	111		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	105		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	89.6		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	94.8		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	53.7		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	490		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	321		40.6	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9230		16.6	4.42	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.17		1.24	0.262	mg/Kg	1	☼	6010D	Total/NA
Barium	135		16.6	0.300	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.570		0.414	0.0447	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.210	J	0.414	0.0398	mg/Kg	1	☼	6010D	Total/NA
Calcium	4250		414	30.2	mg/Kg	1	☼	6010D	Total/NA
Chromium	15.0		0.828	0.284	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.44		0.828	0.0613	mg/Kg	1	☼	6010D	Total/NA
Copper	10.5		2.07	0.195	mg/Kg	1	☼	6010D	Total/NA
Iron	12000		16.6	5.75	mg/Kg	1	☼	6010D	Total/NA
Lead	27.4		0.828	0.234	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1650		414	12.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	621		1.24	0.215	mg/Kg	1	☼	6010D	Total/NA
Nickel	13.1		3.31	0.411	mg/Kg	1	☼	6010D	Total/NA
Potassium	819		414	29.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.857	J	1.66	0.388	mg/Kg	1	☼	6010D	Total/NA
Vanadium	25.5		4.14	0.681	mg/Kg	1	☼	6010D	Total/NA
Zinc	49.3		4.14	1.13	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0386	J	0.101	0.0182	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-18-3 — Lab Sample ID: 240-195376-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	23.3	J	40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	163		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	159		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	132		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	167		40.8	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	22.3	J	40.8	10.2	ug/Kg	1	☼	8270E	Total/NA
Bis(2-ethylhexyl) phthalate	107	J	153	57.1	ug/Kg	1	☼	8270E	Total/NA
Butyl benzyl phthalate	81.1	J	153	52.0	ug/Kg	1	☼	8270E	Total/NA
Chrysene	329		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	75.3		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	36.9	J	153	24.5	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	72.2		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	68.3		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	68.3		40.8	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	38.6	J	40.8	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	342		40.8	13.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-18-3 (Continued) — Lab Sample ID: 240-195376-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	237		40.8	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	10600		16.4	4.37	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.353	J	1.64	0.294	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.23		1.23	0.259	mg/Kg	1	☼	6010D	Total/NA
Barium	146		16.4	0.297	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.605		0.410	0.0443	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.200	J	0.410	0.0393	mg/Kg	1	☼	6010D	Total/NA
Calcium	5330		410	29.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.6		0.819	0.281	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.54		0.819	0.0606	mg/Kg	1	☼	6010D	Total/NA
Copper	12.1		2.05	0.193	mg/Kg	1	☼	6010D	Total/NA
Iron	14100		16.4	5.69	mg/Kg	1	☼	6010D	Total/NA
Lead	25.1		0.819	0.231	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1980		410	12.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	715		1.23	0.212	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.6		3.28	0.406	mg/Kg	1	☼	6010D	Total/NA
Potassium	902		410	29.3	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.671	J	1.64	0.384	mg/Kg	1	☼	6010D	Total/NA
Vanadium	28.4		4.10	0.674	mg/Kg	1	☼	6010D	Total/NA
Zinc	51.8		4.10	1.12	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0370	J	0.102	0.0183	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-19-1 — Lab Sample ID: 240-195376-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	42.1		40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	255		40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	222		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	249		40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	256		40.5	27.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	46.2		40.5	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	31.3	J	101	27.3	ug/Kg	1	☼	8270E	Total/NA
Chrysene	485		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	107		40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	161		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	113		40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	96.6		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	54.4		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	484		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	365		40.5	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9810		14.8	3.95	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.20		1.11	0.234	mg/Kg	1	☼	6010D	Total/NA
Barium	106		14.8	0.268	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.533		0.370	0.0400	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.310	J	0.370	0.0355	mg/Kg	1	☼	6010D	Total/NA
Calcium	28400		370	27.0	mg/Kg	1	☼	6010D	Total/NA
Chromium	17.4		0.740	0.254	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.47		0.740	0.0548	mg/Kg	1	☼	6010D	Total/NA
Copper	12.4		1.85	0.175	mg/Kg	1	☼	6010D	Total/NA
Iron	13200		14.8	5.14	mg/Kg	1	☼	6010D	Total/NA
Lead	39.9		0.740	0.209	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-19-1 (Continued) — Lab Sample ID: 240-195376-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	3190		370	11.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	432		1.11	0.192	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.4		2.96	0.367	mg/Kg	1	☼	6010D	Total/NA
Potassium	815		370	26.5	mg/Kg	1	☼	6010D	Total/NA
Vanadium	24.7		3.70	0.608	mg/Kg	1	☼	6010D	Total/NA
Zinc	60.0		3.70	1.01	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0305	J	0.0995	0.0179	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-19-2 — Lab Sample ID: 240-195376-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	38.3	J	40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	276		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	212		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	225		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	299		40.8	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	50.5		40.8	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole	34.1	J	102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene	539		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	124		40.8	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	121		40.8	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	111		40.8	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	108		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	59.8		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	537		40.8	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	391		40.8	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9580		15.4	4.11	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.469	J	1.54	0.277	mg/Kg	1	☼	6010D	Total/NA
Arsenic	5.85		1.16	0.244	mg/Kg	1	☼	6010D	Total/NA
Barium	104		15.4	0.279	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.575		0.386	0.0417	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.258	J	0.386	0.0370	mg/Kg	1	☼	6010D	Total/NA
Calcium	8250		386	28.1	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.3		0.771	0.265	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.13		0.771	0.0571	mg/Kg	1	☼	6010D	Total/NA
Copper	11.2		1.93	0.182	mg/Kg	1	☼	6010D	Total/NA
Iron	11300		15.4	5.36	mg/Kg	1	☼	6010D	Total/NA
Lead	33.9		0.771	0.218	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1710		386	11.8	mg/Kg	1	☼	6010D	Total/NA
Manganese	346		1.16	0.200	mg/Kg	1	☼	6010D	Total/NA
Nickel	14.1		3.09	0.383	mg/Kg	1	☼	6010D	Total/NA
Potassium	752		386	27.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.713	J	1.54	0.362	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.8		3.86	0.634	mg/Kg	1	☼	6010D	Total/NA
Zinc	51.9		3.86	1.05	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0328	J	0.0940	0.0169	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-19-3 — Lab Sample ID: 240-195376-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	35.6	J	39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	248		39.9	15.0	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-19-3 (Continued) — Lab Sample ID: 240-195376-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	184		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	188		39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	244		39.9	26.9	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	44.8		39.9	9.98	ug/Kg	1	☼	8270E	Total/NA
Carbazole	29.7	J	99.8	26.9	ug/Kg	1	☼	8270E	Total/NA
Chrysene	492		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	94.5		39.9	15.0	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	130		39.9	14.0	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	87.7		39.9	12.0	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	112		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	58.2		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	511		39.9	13.0	ug/Kg	1	☼	8270E	Total/NA
Pyrene	366		39.9	16.0	ug/Kg	1	☼	8270E	Total/NA
Aluminum	8770	B	17.9	4.77	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.696	J F1	1.79	0.321	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.36		1.34	0.283	mg/Kg	1	☼	6010D	Total/NA
Barium	108		17.9	0.324	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.563		0.448	0.0483	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.279	J	0.448	0.0430	mg/Kg	1	☼	6010D	Total/NA
Calcium	17000	F1	448	32.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.2		0.895	0.307	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.65		0.895	0.0662	mg/Kg	1	☼	6010D	Total/NA
Copper	11.7		2.24	0.211	mg/Kg	1	☼	6010D	Total/NA
Iron	11900		17.9	6.22	mg/Kg	1	☼	6010D	Total/NA
Lead	37.9		0.895	0.252	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2610		448	13.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	394		1.34	0.232	mg/Kg	1	☼	6010D	Total/NA
Nickel	13.5		3.58	0.444	mg/Kg	1	☼	6010D	Total/NA
Potassium	747		448	32.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.775	J	1.79	0.420	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.7		4.48	0.736	mg/Kg	1	☼	6010D	Total/NA
Zinc	54.7		4.48	1.22	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0349	J	0.0950	0.0171	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-20-1 — Lab Sample ID: 240-195376-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	12.2	J	40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	86.7		40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	72.3		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	67.0		40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	81.2		40.5	27.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	13.3	J	40.5	10.1	ug/Kg	1	☼	8270E	Total/NA
Chrysene	172		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	31.8	J	40.5	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	42.2		40.5	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	42.3		40.5	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	39.5	J	40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	22.7	J	40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	184		40.5	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	127		40.5	16.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-20-1 (Continued) — Lab Sample ID: 240-195376-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10500	B	14.9	3.96	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.323	J	1.49	0.267	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.40		1.11	0.235	mg/Kg	1	☼	6010D	Total/NA
Barium	124		14.9	0.269	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.608		0.371	0.0401	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.162	J	0.371	0.0356	mg/Kg	1	☼	6010D	Total/NA
Calcium	4210		371	27.1	mg/Kg	1	☼	6010D	Total/NA
Chromium	17.7		0.743	0.255	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.57		0.743	0.0549	mg/Kg	1	☼	6010D	Total/NA
Copper	12.5		1.86	0.175	mg/Kg	1	☼	6010D	Total/NA
Iron	15500		14.9	5.16	mg/Kg	1	☼	6010D	Total/NA
Lead	15.7		0.743	0.209	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2190		371	11.4	mg/Kg	1	☼	6010D	Total/NA
Manganese	330		1.11	0.192	mg/Kg	1	☼	6010D	Total/NA
Nickel	17.5		2.97	0.368	mg/Kg	1	☼	6010D	Total/NA
Potassium	863		371	26.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.698	J	1.49	0.348	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.4		3.71	0.610	mg/Kg	1	☼	6010D	Total/NA
Zinc	50.0		3.71	1.02	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0325	J	0.0924	0.0166	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-20-2 — Lab Sample ID: 240-195376-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	16.2	J	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	94.9		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	87.4		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	72.7		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	95.0		40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	21.2	J	40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	197		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	41.4		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	45.4		40.7	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	43.9		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	40.4	J	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	21.3	J	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	204		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	140		40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	10400	B	19.7	5.25	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.417	J	1.97	0.353	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.14		1.48	0.311	mg/Kg	1	☼	6010D	Total/NA
Barium	118		19.7	0.356	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.651		0.492	0.0531	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.172	J	0.492	0.0472	mg/Kg	1	☼	6010D	Total/NA
Calcium	4840		492	35.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	18.4		0.984	0.338	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.18		0.984	0.0728	mg/Kg	1	☼	6010D	Total/NA
Copper	12.2		2.46	0.232	mg/Kg	1	☼	6010D	Total/NA
Iron	15600		19.7	6.83	mg/Kg	1	☼	6010D	Total/NA
Lead	17.3		0.984	0.278	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2080		492	15.0	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-20-2 (Continued) — Lab Sample ID: 240-195376-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	317		1.48	0.255	mg/Kg	1	☼	6010D	Total/NA
Nickel	17.7		3.94	0.488	mg/Kg	1	☼	6010D	Total/NA
Potassium	880		492	35.2	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.694	J	1.97	0.462	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.3		4.92	0.809	mg/Kg	1	☼	6010D	Total/NA
Zinc	45.5		4.92	1.35	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0364	J	0.111	0.0199	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-20-3 — Lab Sample ID: 240-195376-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	35.9	J	40.1	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	203		40.1	15.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	167		40.1	14.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	163		40.1	12.0	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	200		40.1	27.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	29.9	J	40.1	10.0	ug/Kg	1	☼	8270E	Total/NA
Chrysene	428		40.1	14.0	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	90.7		40.1	15.0	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	91.2		40.1	14.0	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	87.4		40.1	12.0	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	88.1		40.1	13.0	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	49.3		40.1	13.0	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	464		40.1	13.0	ug/Kg	1	☼	8270E	Total/NA
Pyrene	302		40.1	16.0	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9840	B	16.8	4.47	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.80		1.26	0.265	mg/Kg	1	☼	6010D	Total/NA
Barium	111		16.8	0.304	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.627		0.419	0.0453	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.207	J	0.419	0.0403	mg/Kg	1	☼	6010D	Total/NA
Calcium	5440		419	30.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	17.7		0.839	0.288	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.87		0.839	0.0621	mg/Kg	1	☼	6010D	Total/NA
Copper	10.9		2.10	0.198	mg/Kg	1	☼	6010D	Total/NA
Iron	14700		16.8	5.82	mg/Kg	1	☼	6010D	Total/NA
Lead	21.5		0.839	0.236	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1810		419	12.8	mg/Kg	1	☼	6010D	Total/NA
Manganese	336		1.26	0.217	mg/Kg	1	☼	6010D	Total/NA
Nickel	17.0		3.35	0.416	mg/Kg	1	☼	6010D	Total/NA
Potassium	779		419	30.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.589	J	1.68	0.393	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.6		4.19	0.689	mg/Kg	1	☼	6010D	Total/NA
Zinc	44.2		4.19	1.15	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0320	J	0.101	0.0183	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-21-1 — Lab Sample ID: 240-195376-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	16.9	J	41.6	12.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	108		41.6	15.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	111		41.6	14.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	117		41.6	12.5	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-21-1 (Continued) — Lab Sample ID: 240-195376-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	121		41.6	28.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	23.8	J	41.6	10.4	ug/Kg	1	☼	8270E	Total/NA
Chrysene	205		41.6	14.6	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	39.2	J	41.6	15.6	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	99.2		41.6	14.6	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	58.3		41.6	12.5	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	40.8	J	41.6	13.5	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	20.4	J	41.6	13.5	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	201		41.6	13.5	ug/Kg	1	☼	8270E	Total/NA
Pyrene	167		41.6	16.6	ug/Kg	1	☼	8270E	Total/NA
Aluminum	11100	B	16.6	4.43	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.14		1.24	0.262	mg/Kg	1	☼	6010D	Total/NA
Barium	119		16.6	0.300	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.736		0.415	0.0448	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.252	J	0.415	0.0398	mg/Kg	1	☼	6010D	Total/NA
Calcium	7860		415	30.3	mg/Kg	1	☼	6010D	Total/NA
Chromium	20.5		0.830	0.285	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.19		0.830	0.0614	mg/Kg	1	☼	6010D	Total/NA
Copper	13.6		2.07	0.196	mg/Kg	1	☼	6010D	Total/NA
Iron	12500		16.6	5.76	mg/Kg	1	☼	6010D	Total/NA
Lead	18.0		0.830	0.234	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2040		415	12.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	242		1.24	0.215	mg/Kg	1	☼	6010D	Total/NA
Nickel	15.1		3.32	0.412	mg/Kg	1	☼	6010D	Total/NA
Potassium	731		415	29.7	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.736	J	1.66	0.389	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.1		4.15	0.682	mg/Kg	1	☼	6010D	Total/NA
Zinc	54.6		4.15	1.13	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0366	J	0.123	0.0221	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-21-2 — Lab Sample ID: 240-195376-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	28.0	J	41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	188		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	155		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	143		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	181		41.0	27.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	26.9	J	41.0	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	367		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	76.1		41.0	15.4	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	73.9		41.0	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	74.6		41.0	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	85.8		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	45.0		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	415		41.0	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	269		41.0	16.4	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9650	B	14.8	3.96	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.313	J	1.48	0.267	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.97		1.11	0.235	mg/Kg	1	☼	6010D	Total/NA
Barium	123		14.8	0.269	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-21-2 (Continued) — Lab Sample ID: 240-195376-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.619		0.371	0.0401	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.233	J	0.371	0.0356	mg/Kg	1	☼	6010D	Total/NA
Calcium	5250		371	27.1	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.5		0.742	0.255	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.18		0.742	0.0549	mg/Kg	1	☼	6010D	Total/NA
Copper	12.0		1.86	0.175	mg/Kg	1	☼	6010D	Total/NA
Iron	13600		14.8	5.15	mg/Kg	1	☼	6010D	Total/NA
Lead	24.3		0.742	0.209	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1670		371	11.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	437		1.11	0.192	mg/Kg	1	☼	6010D	Total/NA
Nickel	14.6		2.97	0.368	mg/Kg	1	☼	6010D	Total/NA
Potassium	744		371	26.5	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.789	J	1.48	0.348	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.3		3.71	0.610	mg/Kg	1	☼	6010D	Total/NA
Zinc	52.1		3.71	1.01	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0380	J	0.0931	0.0168	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-21-3 — Lab Sample ID: 240-195376-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	25.7	J	40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	183		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	141		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	143		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	192		40.6	27.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	37.7	J	40.6	10.1	ug/Kg	1	☼	8270E	Total/NA
Chrysene	363		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	79.3		40.6	15.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	92.9		40.6	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	75.1		40.6	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	80.0		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	43.0		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	393		40.6	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	276		40.6	16.2	ug/Kg	1	☼	8270E	Total/NA
Aluminum	10600	B	17.2	4.59	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.68		1.29	0.272	mg/Kg	1	☼	6010D	Total/NA
Barium	116		17.2	0.311	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.609		0.430	0.0464	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.241	J	0.430	0.0413	mg/Kg	1	☼	6010D	Total/NA
Calcium	6660		430	31.4	mg/Kg	1	☼	6010D	Total/NA
Chromium	16.7		0.860	0.295	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.15		0.860	0.0636	mg/Kg	1	☼	6010D	Total/NA
Copper	12.1		2.15	0.203	mg/Kg	1	☼	6010D	Total/NA
Iron	13100		17.2	5.97	mg/Kg	1	☼	6010D	Total/NA
Lead	21.8		0.860	0.243	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1820		430	13.1	mg/Kg	1	☼	6010D	Total/NA
Manganese	380		1.29	0.223	mg/Kg	1	☼	6010D	Total/NA
Nickel	12.9		3.44	0.427	mg/Kg	1	☼	6010D	Total/NA
Potassium	737		430	30.8	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.744	J	1.72	0.403	mg/Kg	1	☼	6010D	Total/NA
Vanadium	26.3		4.30	0.707	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-21-3 (Continued) — Lab Sample ID: 240-195376-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	50.3		4.30	1.18	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0369	J	0.107	0.0192	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-22-1 — Lab Sample ID: 240-195376-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	89.8	J	163	57.1	ug/Kg	4	☼	8270E	Total/NA
Anthracene	443		163	48.9	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]anthracene	1960		163	61.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]pyrene	1450		163	57.1	ug/Kg	4	☼	8270E	Total/NA
Benzo[b]fluoranthene	1620		163	48.9	ug/Kg	4	☼	8270E	Total/NA
Benzo[g,h,i]perylene	1590		163	110	ug/Kg	4	☼	8270E	Total/NA
Benzo[k]fluoranthene	393		163	40.8	ug/Kg	4	☼	8270E	Total/NA
Carbazole	306	J	408	110	ug/Kg	4	☼	8270E	Total/NA
Chrysene	3490		163	57.1	ug/Kg	4	☼	8270E	Total/NA
Dibenz(a,h)anthracene	654		163	61.2	ug/Kg	4	☼	8270E	Total/NA
Dibenzofuran	147	J	408	118	ug/Kg	4	☼	8270E	Total/NA
Fluoranthene	1800		163	57.1	ug/Kg	4	☼	8270E	Total/NA
Fluorene	153	J	163	57.1	ug/Kg	4	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	715		163	48.9	ug/Kg	4	☼	8270E	Total/NA
2-Methylnaphthalene	1100		163	53.0	ug/Kg	4	☼	8270E	Total/NA
Naphthalene	607		163	53.0	ug/Kg	4	☼	8270E	Total/NA
Phenanthrene	4730		163	53.0	ug/Kg	4	☼	8270E	Total/NA
Pyrene	3010		163	65.2	ug/Kg	4	☼	8270E	Total/NA
Aluminum	8530		17.8	4.74	mg/Kg	1	☼	6010D	Total/NA
Arsenic	22.7		1.33	0.281	mg/Kg	1	☼	6010D	Total/NA
Barium	166		17.8	0.321	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.578		0.444	0.0480	mg/Kg	1	☼	6010D	Total/NA
Cadmium	37.7		0.444	0.0426	mg/Kg	1	☼	6010D	Total/NA
Calcium	59500		2220	162	mg/Kg	5	☼	6010D	Total/NA
Chromium	20.3		0.888	0.305	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.77		0.888	0.0657	mg/Kg	1	☼	6010D	Total/NA
Copper	23.3		2.22	0.210	mg/Kg	1	☼	6010D	Total/NA
Iron	14600		17.8	6.17	mg/Kg	1	☼	6010D	Total/NA
Lead	1770		4.44	1.25	mg/Kg	5	☼	6010D	Total/NA
Magnesium	2660		444	13.6	mg/Kg	1	☼	6010D	Total/NA
Manganese	739		1.33	0.230	mg/Kg	1	☼	6010D	Total/NA
Nickel	22.6		3.55	0.440	mg/Kg	1	☼	6010D	Total/NA
Potassium	904		444	31.8	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.831	J	1.78	0.417	mg/Kg	1	☼	6010D	Total/NA
Silver	3.93		0.888	0.0719	mg/Kg	1	☼	6010D	Total/NA
Vanadium	31.4		4.44	0.730	mg/Kg	1	☼	6010D	Total/NA
Zinc	1090		22.2	6.07	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.109	J	0.119	0.0214	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-22-2 — Lab Sample ID: 240-195376-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	64.1	J	163	57.1	ug/Kg	4	☼	8270E	Total/NA
Anthracene	393		163	49.0	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]anthracene	2080		163	61.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]pyrene	1480		163	57.1	ug/Kg	4	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-22-2 (Continued) — Lab Sample ID: 240-195376-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	1580		163	49.0	ug/Kg	4	☼	8270E	Total/NA
Benzo[g,h,i]perylene	1660		163	110	ug/Kg	4	☼	8270E	Total/NA
Benzo[k]fluoranthene	315		163	40.8	ug/Kg	4	☼	8270E	Total/NA
1,1'-Biphenyl	121	J	408	114	ug/Kg	4	☼	8270E	Total/NA
Carbazole	353	J	408	110	ug/Kg	4	☼	8270E	Total/NA
Chrysene	3910		163	57.1	ug/Kg	4	☼	8270E	Total/NA
Dibenz(a,h)anthracene	805		163	61.2	ug/Kg	4	☼	8270E	Total/NA
Fluoranthene	1200		163	57.1	ug/Kg	4	☼	8270E	Total/NA
Fluorene	94.1	J	163	57.1	ug/Kg	4	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	737		163	49.0	ug/Kg	4	☼	8270E	Total/NA
2-Methylnaphthalene	1360		163	53.1	ug/Kg	4	☼	8270E	Total/NA
Naphthalene	809		163	53.1	ug/Kg	4	☼	8270E	Total/NA
Phenanthrene	5580		163	53.1	ug/Kg	4	☼	8270E	Total/NA
Pyrene	3010		163	65.3	ug/Kg	4	☼	8270E	Total/NA
Aluminum	8150		17.3	4.62	mg/Kg	1	☼	6010D	Total/NA
Arsenic	27.5		1.30	0.274	mg/Kg	1	☼	6010D	Total/NA
Barium	389	F1 F2	17.3	0.314	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.547		0.433	0.0468	mg/Kg	1	☼	6010D	Total/NA
Cadmium	49.9		0.433	0.0416	mg/Kg	1	☼	6010D	Total/NA
Calcium	61600		2170	158	mg/Kg	5	☼	6010D	Total/NA
Chromium	22.8		0.866	0.297	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.54		0.866	0.0641	mg/Kg	1	☼	6010D	Total/NA
Copper	26.9		2.17	0.204	mg/Kg	1	☼	6010D	Total/NA
Iron	13900		17.3	6.01	mg/Kg	1	☼	6010D	Total/NA
Lead	2530		4.33	1.22	mg/Kg	5	☼	6010D	Total/NA
Magnesium	2310		433	13.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	463		1.30	0.224	mg/Kg	1	☼	6010D	Total/NA
Nickel	20.6		3.46	0.430	mg/Kg	1	☼	6010D	Total/NA
Potassium	865		433	31.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.687	J	1.73	0.406	mg/Kg	1	☼	6010D	Total/NA
Silver	5.66		0.866	0.0701	mg/Kg	1	☼	6010D	Total/NA
Vanadium	28.8		4.33	0.712	mg/Kg	1	☼	6010D	Total/NA
Zinc	1420		21.7	5.92	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.122	F1 F2	0.107	0.0192	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-22-3 — Lab Sample ID: 240-195376-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	404		164	49.1	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]anthracene	2520		164	61.4	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]pyrene	1720		164	57.3	ug/Kg	4	☼	8270E	Total/NA
Benzo[b]fluoranthene	1820		164	49.1	ug/Kg	4	☼	8270E	Total/NA
Benzo[g,h,i]perylene	2050		164	111	ug/Kg	4	☼	8270E	Total/NA
Benzo[k]fluoranthene	296		164	40.9	ug/Kg	4	☼	8270E	Total/NA
1,1'-Biphenyl	168	J	409	115	ug/Kg	4	☼	8270E	Total/NA
Carbazole	423		409	111	ug/Kg	4	☼	8270E	Total/NA
Chrysene	5020		164	57.3	ug/Kg	4	☼	8270E	Total/NA
Dibenz(a,h)anthracene	1060		164	61.4	ug/Kg	4	☼	8270E	Total/NA
Dibenzofuran	140	J	409	119	ug/Kg	4	☼	8270E	Total/NA
Fluoranthene	1090		164	57.3	ug/Kg	4	☼	8270E	Total/NA
Fluorene	109	J	164	57.3	ug/Kg	4	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-22-3 (Continued) — Lab Sample ID: 240-195376-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Indeno[1,2,3-cd]pyrene	901		164	49.1	ug/Kg	4	☼	8270E	Total/NA
2-Methylnaphthalene	2010		164	53.2	ug/Kg	4	☼	8270E	Total/NA
Naphthalene	1180		164	53.2	ug/Kg	4	☼	8270E	Total/NA
Phenanthrene	7250		164	53.2	ug/Kg	4	☼	8270E	Total/NA
Pyrene	3580		164	65.5	ug/Kg	4	☼	8270E	Total/NA
Aluminum	7080		14.0	3.73	mg/Kg	1	☼	6010D	Total/NA
Arsenic	30.7		1.05	0.221	mg/Kg	1	☼	6010D	Total/NA
Barium	117		14.0	0.253	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.476		0.350	0.0378	mg/Kg	1	☼	6010D	Total/NA
Cadmium	45.0		0.350	0.0336	mg/Kg	1	☼	6010D	Total/NA
Calcium	68700		1750	128	mg/Kg	5	☼	6010D	Total/NA
Chromium	25.8		0.700	0.240	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.25		0.700	0.0518	mg/Kg	1	☼	6010D	Total/NA
Copper	31.4		8.75	0.826	mg/Kg	5	☼	6010D	Total/NA
Iron	12700		14.0	4.86	mg/Kg	1	☼	6010D	Total/NA
Lead	2940		3.50	0.987	mg/Kg	5	☼	6010D	Total/NA
Magnesium	2220		350	10.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	382		1.05	0.181	mg/Kg	1	☼	6010D	Total/NA
Nickel	17.9		2.80	0.347	mg/Kg	1	☼	6010D	Total/NA
Potassium	833		350	25.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	1.01	J	1.40	0.328	mg/Kg	1	☼	6010D	Total/NA
Silver	6.73		0.700	0.0567	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.2		3.50	0.575	mg/Kg	1	☼	6010D	Total/NA
Zinc	1630		17.5	4.78	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.143		0.0908	0.0163	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-23-1 — Lab Sample ID: 240-195376-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	29.7	J	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	190		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	152		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	136		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	181		40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	28.1	J	40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	367		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	92.8		40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	76.8		40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	73.4		40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	76.9		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	41.9		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	392		40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene	257		40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Anthracene - RE	77.8	H	40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene - RE	507	H	40.9	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene - RE	367	H	40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene - RE	414	H	40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene - RE	513	H	40.9	27.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene - RE	63.1	H	40.9	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole - RE	65.5	J H	102	27.6	ug/Kg	1	☼	8270E	Total/NA
Chrysene - RE	1050	H	40.9	14.3	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-23-1 (Continued) — Lab Sample ID: 240-195376-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene - RE	237	H	40.9	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene - RE	219	H	40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene - RE	20.9	J H	40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene - RE	192	H	40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene - RE	221	H	40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene - RE	110	H	40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene - RE	1180	H	40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene - RE	665	H	40.9	16.4	ug/Kg	1	☼	8270E	Total/NA
Aluminum	9230		17.0	4.54	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.867	J	1.70	0.306	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.09		1.28	0.269	mg/Kg	1	☼	6010D	Total/NA
Barium	156		17.0	0.308	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.517		0.426	0.0460	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.350	J	0.426	0.0409	mg/Kg	1	☼	6010D	Total/NA
Calcium	19500		426	31.0	mg/Kg	1	☼	6010D	Total/NA
Chromium	14.4		0.852	0.292	mg/Kg	1	☼	6010D	Total/NA
Cobalt	7.37		0.852	0.0630	mg/Kg	1	☼	6010D	Total/NA
Copper	11.5		2.13	0.201	mg/Kg	1	☼	6010D	Total/NA
Iron	13600		17.0	5.91	mg/Kg	1	☼	6010D	Total/NA
Lead	44.6		0.852	0.240	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1720		426	13.0	mg/Kg	1	☼	6010D	Total/NA
Manganese	550		1.28	0.221	mg/Kg	1	☼	6010D	Total/NA
Nickel	13.8		3.41	0.422	mg/Kg	1	☼	6010D	Total/NA
Potassium	863		426	30.5	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.732	J	1.70	0.399	mg/Kg	1	☼	6010D	Total/NA
Vanadium	27.4		4.26	0.700	mg/Kg	1	☼	6010D	Total/NA
Zinc	57.1		4.26	1.16	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0314	J	0.105	0.0189	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-23-2 — Lab Sample ID: 240-195376-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	54.0		40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	325		40.9	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	254		40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	258		40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	302		40.9	27.6	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	47.9		40.9	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole	42.3	J	102	27.6	ug/Kg	1	☼	8270E	Total/NA
Chrysene	597		40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	138		40.9	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	188		40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Fluorene	16.7	J	40.9	14.3	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	129		40.9	12.3	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	128		40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Naphthalene	69.4		40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	660		40.9	13.3	ug/Kg	1	☼	8270E	Total/NA
Pyrene	445		40.9	16.3	ug/Kg	1	☼	8270E	Total/NA
Anthracene - RE	67.8	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene - RE	415	H	40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene - RE	294	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-23-2 (Continued) — Lab Sample ID: 240-195376-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene - RE	332	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene - RE	418	H	40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene - RE	44.6	H	40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole - RE	51.0	J H	102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene - RE	793	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene - RE	167	H	40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene - RE	222	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Fluorene - RE	20.8	J H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene - RE	163	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene - RE	166	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene - RE	84.0	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene - RE	897	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene - RE	547	H	40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	8310		19.0	5.07	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.667	J	1.90	0.341	mg/Kg	1	☼	6010D	Total/NA
Arsenic	7.72		1.43	0.300	mg/Kg	1	☼	6010D	Total/NA
Barium	146		19.0	0.344	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.515		0.475	0.0513	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.255	J	0.475	0.0456	mg/Kg	1	☼	6010D	Total/NA
Calcium	15000		475	34.7	mg/Kg	1	☼	6010D	Total/NA
Chromium	13.3		0.951	0.326	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.26		0.951	0.0704	mg/Kg	1	☼	6010D	Total/NA
Copper	9.69		2.38	0.224	mg/Kg	1	☼	6010D	Total/NA
Iron	13500		19.0	6.60	mg/Kg	1	☼	6010D	Total/NA
Lead	41.2		0.951	0.268	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1560		475	14.5	mg/Kg	1	☼	6010D	Total/NA
Manganese	803		1.43	0.246	mg/Kg	1	☼	6010D	Total/NA
Nickel	12.5		3.80	0.472	mg/Kg	1	☼	6010D	Total/NA
Potassium	756		475	34.0	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.845	J	1.90	0.446	mg/Kg	1	☼	6010D	Total/NA
Vanadium	28.1		4.75	0.782	mg/Kg	1	☼	6010D	Total/NA
Zinc	47.3		4.75	1.30	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0311	J	0.121	0.0217	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-23-3 — Lab Sample ID: 240-195376-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	55.4		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene	321		40.3	15.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	249		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	260		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	295		40.3	27.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	46.5		40.3	10.1	ug/Kg	1	☼	8270E	Total/NA
Carbazole	45.8	J	101	27.2	ug/Kg	1	☼	8270E	Total/NA
Chrysene	584		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	138		40.3	15.1	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	52.3	J	151	24.2	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	196		40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Fluorene	16.6	J	40.3	14.1	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	132		40.3	12.1	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene	126		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-23-3 (Continued)

Lab Sample ID: 240-195376-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	69.6		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	684		40.3	13.1	ug/Kg	1	☼	8270E	Total/NA
Pyrene	454		40.3	16.1	ug/Kg	1	☼	8270E	Total/NA
Anthracene - RE	81.8	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]anthracene - RE	467	H	40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene - RE	353	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene - RE	330	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene - RE	466	H	40.7	27.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene - RE	83.0	H	40.7	10.2	ug/Kg	1	☼	8270E	Total/NA
Carbazole - RE	60.9	J H	102	27.5	ug/Kg	1	☼	8270E	Total/NA
Chrysene - RE	887	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene - RE	206	H	40.7	15.3	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene - RE	229	H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Fluorene - RE	19.4	J H	40.7	14.2	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene - RE	185	H	40.7	12.2	ug/Kg	1	☼	8270E	Total/NA
2-Methylnaphthalene - RE	192	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Naphthalene - RE	104	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene - RE	1090	H	40.7	13.2	ug/Kg	1	☼	8270E	Total/NA
Pyrene - RE	608	H	40.7	16.3	ug/Kg	1	☼	8270E	Total/NA
Aluminum	7140		14.2	3.79	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.849	J	1.42	0.255	mg/Kg	1	☼	6010D	Total/NA
Arsenic	6.10		1.07	0.225	mg/Kg	1	☼	6010D	Total/NA
Barium	127		14.2	0.258	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.438		0.356	0.0384	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.256	J	0.356	0.0342	mg/Kg	1	☼	6010D	Total/NA
Calcium	14400		356	25.9	mg/Kg	1	☼	6010D	Total/NA
Chromium	12.0		0.711	0.244	mg/Kg	1	☼	6010D	Total/NA
Cobalt	8.00		0.711	0.0526	mg/Kg	1	☼	6010D	Total/NA
Copper	8.50		1.78	0.168	mg/Kg	1	☼	6010D	Total/NA
Iron	11400		14.2	4.94	mg/Kg	1	☼	6010D	Total/NA
Lead	37.3		0.711	0.201	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1460		356	10.9	mg/Kg	1	☼	6010D	Total/NA
Manganese	614		1.07	0.184	mg/Kg	1	☼	6010D	Total/NA
Nickel	11.2		2.85	0.353	mg/Kg	1	☼	6010D	Total/NA
Potassium	650		356	25.4	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.444	J	1.42	0.334	mg/Kg	1	☼	6010D	Total/NA
Vanadium	23.6		3.56	0.585	mg/Kg	1	☼	6010D	Total/NA
Zinc	44.2		3.56	0.973	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0303	J	0.118	0.0213	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-1

Date Collected: 11/09/23 17:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-1

Matrix: Solid
Percent Solids: 96.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**16.2**	**J**	41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Acenaphthylene	ND		41.1	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Acetophenone	ND		103	25.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Anthracene	**97.7**		41.1	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Atrazine	ND		339	70.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzaldehyde	ND		339	57.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzo[a]anthracene	**630**		41.1	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzo[a]pyrene	**560**		41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzo[b]fluoranthene	**648**		41.1	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzo[g,h,i]perylene	**596**		41.1	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Benzo[k]fluoranthene	**163**		41.1	10.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
1,1'-Biphenyl	ND		103	28.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Bis(2-chloroethoxy)methane	ND		103	20.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Bis(2-chloroethyl)ether	ND		103	22.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
bis (2-chloroisopropyl) ether	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Bis(2-ethylhexyl) phthalate	**65.0**	**J**	154	57.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Bromophenyl phenyl ether	ND		103	32.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Butyl benzyl phthalate	ND		154	52.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Caprolactam	ND		339	70.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Carbazole	**70.8**	**J**	103	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Chloroaniline	ND		154	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Chloro-3-methylphenol	ND		154	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Chloronaphthalene	ND		103	28.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Chlorophenol	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Chlorophenyl phenyl ether	ND		103	28.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Chrysene	**977**		41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Dibenz(a,h)anthracene	**293**		41.1	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Dibenzofuran	ND		103	29.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
3,3'-Dichlorobenzidine	ND		154	97.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4-Dichlorophenol	ND		154	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Diethyl phthalate	ND		154	44.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4-Dimethylphenol	ND		154	37.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Dimethyl phthalate	ND		154	41.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Di-n-butyl phthalate	ND		154	24.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4,6-Dinitro-2-methylphenol	ND		339	107	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4-Dinitrophenol	ND		339	176	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4-Dinitrotoluene	ND		205	23.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,6-Dinitrotoluene	ND		205	37.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Di-n-octyl phthalate	ND		154	51.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Fluoranthene	**500**		41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Fluorene	**21.8**	**J**	41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Hexachlorobenzene	ND		41.1	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Hexachlorobutadiene	ND		103	21.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Hexachlorocyclopentadiene	ND		339	40.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Hexachloroethane	ND		103	32.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Indeno[1,2,3-cd]pyrene	**255**		41.1	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Isophorone	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Methylnaphthalene	**227**		41.1	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Methylphenol	ND		205	42.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-1

Date Collected: 11/09/23 17:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-1

Matrix: Solid
Percent Solids: 96.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		411	42.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Naphthalene	**128**		41.1	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Nitroaniline	ND		205	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
3-Nitroaniline	ND		205	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Nitroaniline	ND		205	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Nitrobenzene	ND		103	22.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2-Nitrophenol	ND		103	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
4-Nitrophenol	ND		339	92.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
N-Nitrosodi-n-propylamine	ND		103	38.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
N-Nitrosodiphenylamine	ND		103	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Pentachlorophenol	ND		277	108	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Phenanthrene	**672**		41.1	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Phenol	ND		103	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
Pyrene	**714**		41.1	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4,5-Trichlorophenol	ND		154	33.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1
2,4,6-Trichlorophenol	ND		154	29.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*60*		*34 - 120*	*11/21/23 08:50*	*12/01/23 17:58*	*1*
2-Fluorophenol (Surr)	*54*		*20 - 120*	*11/21/23 08:50*	*12/01/23 17:58*	*1*
Nitrobenzene-d5 (Surr)	*61*		*25 - 120*	*11/21/23 08:50*	*12/01/23 17:58*	*1*
Phenol-d5 (Surr)	*62*		*26 - 120*	*11/21/23 08:50*	*12/01/23 17:58*	*1*
Terphenyl-d14 (Surr)	*64*		*46 - 137*	*11/21/23 08:50*	*12/01/23 17:58*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*10 - 120*	*11/21/23 08:50*	*12/01/23 17:58*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9780**		19.2	5.12	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Antimony	**1.10**	**J**	1.92	0.345	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Arsenic	**9.39**		2.88	0.607	mg/Kg	☼	11/21/23 11:00	11/27/23 09:17	2
Barium	**228**		19.2	0.348	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Beryllium	**0.670**		0.480	0.0519	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Cadmium	**0.643**		0.480	0.0461	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Calcium	**11600**		480	35.0	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Chromium	**27.7**		0.960	0.329	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Cobalt	**19.8**		0.960	0.0711	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Copper	**17.8**		2.40	0.227	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Iron	**18500**		19.2	6.67	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Lead	**42.6**		0.960	0.271	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Magnesium	**2960**		480	14.7	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Manganese	**1720**		2.88	0.497	mg/Kg	☼	11/21/23 11:00	11/27/23 09:17	2
Nickel	**34.1**		3.84	0.476	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Potassium	**784**		480	34.3	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Selenium	ND		3.84	0.901	mg/Kg	☼	11/21/23 11:00	11/27/23 09:17	2
Silver	**0.131**	**J B**	0.960	0.0778	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Sodium	ND		480	136	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Thallium	ND		3.84	0.766	mg/Kg	☼	11/21/23 11:00	11/27/23 09:17	2
Vanadium	**32.2**		4.80	0.789	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1
Zinc	**69.0**		4.80	1.31	mg/Kg	☼	11/21/23 11:00	11/22/23 12:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-1

Date Collected: 11/09/23 17:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-1

Matrix: Solid
Percent Solids: 96.4

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0301	J	0.105	0.0190	mg/Kg	☼	11/21/23 12:00	11/27/23 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.4		0.1	0.1	%			11/20/23 15:14	1
Percent Moisture (EPA Moisture)	3.6		0.1	0.1	%			11/20/23 15:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-2

Date Collected: 11/09/23 17:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-2

Matrix: Solid
Percent Solids: 97.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**37.2**	**J**	39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Acenaphthylene	ND		39.9	15.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Acetophenone	ND		99.8	24.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Anthracene	**165**		39.9	12.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Atrazine	ND		329	68.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzaldehyde	ND		329	55.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzo[a]anthracene	**804**		39.9	15.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzo[a]pyrene	**786**		39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzo[b]fluoranthene	**856**		39.9	12.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzo[g,h,i]perylene	**845**		39.9	26.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Benzo[k]fluoranthene	**264**		39.9	9.98	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
1,1'-Biphenyl	ND		99.8	27.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Bis(2-chloroethoxy)methane	ND		99.8	20.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Bis(2-chloroethyl)ether	ND		99.8	21.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
bis (2-chloroisopropyl) ether	ND		99.8	25.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Bis(2-ethylhexyl) phthalate	**106**	**J**	150	55.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Bromophenyl phenyl ether	ND		99.8	31.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Butyl benzyl phthalate	ND		150	50.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Caprolactam	ND		329	68.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Carbazole	**107**		99.8	26.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Chloroaniline	ND		150	16.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Chloro-3-methylphenol	ND		150	37.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Chloronaphthalene	ND		99.8	27.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Chlorophenol	ND		99.8	25.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Chlorophenyl phenyl ether	ND		99.8	27.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Chrysene	**1120**		39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Dibenz(a,h)anthracene	**444**		39.9	15.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Dibenzofuran	**29.2**	**J**	99.8	28.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
3,3'-Dichlorobenzidine	ND		150	94.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4-Dichlorophenol	ND		150	26.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Diethyl phthalate	ND		150	42.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4-Dimethylphenol	ND		150	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Dimethyl phthalate	ND		150	39.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Di-n-butyl phthalate	**28.3**	**J**	150	23.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4,6-Dinitro-2-methylphenol	ND		329	104	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4-Dinitrophenol	ND		329	171	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4-Dinitrotoluene	ND		200	22.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,6-Dinitrotoluene	ND		200	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Di-n-octyl phthalate	ND		150	49.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Fluoranthene	**796**		39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Fluorene	**38.6**	**J**	39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Hexachlorobenzene	ND		39.9	14.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Hexachlorobutadiene	ND		99.8	20.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Hexachlorocyclopentadiene	ND		329	38.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Hexachloroethane	ND		99.8	31.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Indeno[1,2,3-cd]pyrene	**358**		39.9	12.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Isophorone	ND		99.8	25.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Methylnaphthalene	**288**		39.9	13.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Methylphenol	ND		200	40.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-2

Date Collected: 11/09/23 17:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-2

Matrix: Solid
Percent Solids: 97.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		399	40.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Naphthalene	**176**		39.9	13.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Nitroaniline	ND		200	37.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
3-Nitroaniline	ND		200	34.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Nitroaniline	ND		200	25.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Nitrobenzene	ND		99.8	21.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2-Nitrophenol	ND		99.8	34.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
4-Nitrophenol	ND		329	89.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
N-Nitrosodi-n-propylamine	ND		99.8	36.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
N-Nitrosodiphenylamine	ND		99.8	26.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Pentachlorophenol	ND		269	105	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Phenanthrene	**791**		39.9	13.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Phenol	ND		99.8	37.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
Pyrene	**902**		39.9	16.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4,5-Trichlorophenol	ND		150	32.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1
2,4,6-Trichlorophenol	ND		150	28.9	ug/Kg	☼	11/21/23 08:50	12/01/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*55*		*34 - 120*	*11/21/23 08:50*	*12/01/23 18:22*	*1*
2-Fluorophenol (Surr)	*46*		*20 - 120*	*11/21/23 08:50*	*12/01/23 18:22*	*1*
Nitrobenzene-d5 (Surr)	*53*		*25 - 120*	*11/21/23 08:50*	*12/01/23 18:22*	*1*
Phenol-d5 (Surr)	*53*		*26 - 120*	*11/21/23 08:50*	*12/01/23 18:22*	*1*
Terphenyl-d14 (Surr)	*59*		*46 - 137*	*11/21/23 08:50*	*12/01/23 18:22*	*1*
2,4,6-Tribromophenol (Surr)	*38*		*10 - 120*	*11/21/23 08:50*	*12/01/23 18:22*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7020**		15.8	4.22	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Antimony	ND		1.58	0.284	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Arsenic	**6.29**		1.19	0.250	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Barium	**123**		15.8	0.286	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Beryllium	**0.426**		0.395	0.0427	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Cadmium	**0.478**		0.395	0.0379	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Calcium	**28300**		395	28.8	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Chromium	**38.7**		0.790	0.271	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Cobalt	**10.7**		0.790	0.0585	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Copper	**24.9**		1.98	0.187	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Iron	**17000**		15.8	5.49	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Lead	**24.1**		0.790	0.223	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Magnesium	**4290**		395	12.1	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Manganese	**627**		1.19	0.205	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Nickel	**49.0**		3.16	0.392	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Potassium	**582**		395	28.3	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Selenium	**0.545**	**J**	1.58	0.371	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Silver	ND		0.790	0.0640	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Sodium	ND		395	112	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Thallium	ND		1.58	0.315	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Vanadium	**20.8**		3.95	0.650	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1
Zinc	**63.6**		3.95	1.08	mg/Kg	☼	11/21/23 11:00	11/22/23 12:51	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-2

Date Collected: 11/09/23 17:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-2

Matrix: Solid
Percent Solids: 97.3

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0254	J	0.114	0.0206	mg/Kg	☼	11/21/23 12:00	11/27/23 15:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.3		0.1	0.1	%			11/20/23 15:14	1
Percent Moisture (EPA Moisture)	2.7		0.1	0.1	%			11/20/23 15:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-3

Date Collected: 11/09/23 17:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-3

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**248**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Acenaphthylene	ND		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Anthracene	**611**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Atrazine	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzaldehyde	**68.6**	**J**	336	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzo[a]anthracene	**1850**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzo[a]pyrene	**1650**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzo[b]fluoranthene	**2210**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzo[g,h,i]perylene	**1360**		40.8	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Benzo[k]fluoranthene	**705**		40.8	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
1,1'-Biphenyl	**48.1**	**J**	102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Bis(2-ethylhexyl) phthalate	**95.2**	**J**	153	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Butyl benzyl phthalate	ND		153	52.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Caprolactam	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Carbazole	**356**		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Chrysene	**2180**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Dibenz(a,h)anthracene	**715**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Dibenzofuran	**193**		102	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
3,3'-Dichlorobenzidine	ND		153	96.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Dimethyl phthalate	ND		153	40.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Di-n-butyl phthalate	ND		153	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Di-n-octyl phthalate	ND		153	51.0	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Fluoranthene	**2970**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Fluorene	**257**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Hexachlorobenzene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Indeno[1,2,3-cd]pyrene	**762**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Methylnaphthalene	**540**		40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-3

Date Collected: 11/09/23 17:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-3

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	**47.9**	**J**	408	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Naphthalene	**588**		40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
3-Nitroaniline	ND		204	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2-Nitrophenol	ND		102	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
4-Nitrophenol	ND		336	91.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Phenanthrene	**2620**		40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
Pyrene	**2690**		40.8	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1
2,4,6-Trichlorophenol	ND		153	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*34 - 120*	*11/21/23 08:50*	*12/01/23 18:46*	*1*
2-Fluorophenol (Surr)	*61*		*20 - 120*	*11/21/23 08:50*	*12/01/23 18:46*	*1*
Nitrobenzene-d5 (Surr)	*70*		*25 - 120*	*11/21/23 08:50*	*12/01/23 18:46*	*1*
Phenol-d5 (Surr)	*68*		*26 - 120*	*11/21/23 08:50*	*12/01/23 18:46*	*1*
Terphenyl-d14 (Surr)	*73*		*46 - 137*	*11/21/23 08:50*	*12/01/23 18:46*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*10 - 120*	*11/21/23 08:50*	*12/01/23 18:46*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7090**		16.4	4.36	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Antimony	ND		1.64	0.294	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Arsenic	**6.01**		1.23	0.258	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Barium	**97.2**		16.4	0.296	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Beryllium	**0.363**	**J**	0.409	0.0442	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Cadmium	**0.454**		0.409	0.0393	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Calcium	**36400**		409	29.8	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Chromium	**43.4**		0.818	0.281	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Cobalt	**8.10**		0.818	0.0605	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Copper	**26.7**		2.04	0.193	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Iron	**20700**		16.4	5.68	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Lead	**21.7**		0.818	0.231	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Magnesium	**5260**		409	12.5	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Manganese	**396**		1.23	0.212	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Nickel	**53.4**		3.27	0.406	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Potassium	**597**		409	29.3	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Selenium	ND		1.64	0.384	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Silver	ND		0.818	0.0663	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Sodium	ND		409	116	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Thallium	ND		1.64	0.326	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Vanadium	**19.7**		4.09	0.672	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1
Zinc	**76.1**		4.09	1.12	mg/Kg	☼	11/21/23 11:00	11/22/23 12:55	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-3

Date Collected: 11/09/23 17:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-3

Matrix: Solid
Percent Solids: 97.0

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0232	J	0.108	0.0195	mg/Kg	☼	11/21/23 12:00	11/27/23 15:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/20/23 15:14	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/20/23 15:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-1

Date Collected: 11/10/23 08:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-4

Matrix: Solid
Percent Solids: 96.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Acenaphthylene	ND		40.3	15.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Acetophenone	ND		101	25.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Anthracene	**54.8**		40.3	12.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Atrazine	ND		333	69.6	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzaldehyde	ND		333	56.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzo[a]anthracene	**360**		40.3	15.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzo[a]pyrene	**289**		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzo[b]fluoranthene	**335**		40.3	12.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzo[g,h,i]perylene	**380**		40.3	27.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Benzo[k]fluoranthene	**54.9**		40.3	10.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
1,1'-Biphenyl	ND		101	28.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Bis(2-chloroethyl)ether	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
bis (2-chloroisopropyl) ether	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Bis(2-ethylhexyl) phthalate	ND		151	56.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Bromophenyl phenyl ether	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Butyl benzyl phthalate	ND		151	51.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Caprolactam	ND		333	69.6	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Carbazole	**42.5**	**J**	101	27.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Chloroaniline	ND		151	16.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Chloro-3-methylphenol	ND		151	38.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Chloronaphthalene	ND		101	28.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Chlorophenol	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Chlorophenyl phenyl ether	ND		101	28.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Chrysene	**701**		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Dibenz(a,h)anthracene	**157**		40.3	15.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Dibenzofuran	ND		101	29.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
3,3'-Dichlorobenzidine	ND		151	95.8	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4-Dichlorophenol	ND		151	27.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Diethyl phthalate	ND		151	43.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4-Dimethylphenol	ND		151	36.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Dimethyl phthalate	ND		151	40.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Di-n-butyl phthalate	ND		151	24.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4,6-Dinitro-2-methylphenol	ND		333	105	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4-Dinitrophenol	ND		333	172	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4-Dinitrotoluene	ND		202	23.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,6-Dinitrotoluene	ND		202	36.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Di-n-octyl phthalate	ND		151	50.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Fluoranthene	**191**		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Fluorene	ND		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Hexachlorobenzene	ND		40.3	14.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Hexachlorocyclopentadiene	ND		333	39.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Hexachloroethane	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Indeno[1,2,3-cd]pyrene	**161**		40.3	12.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Isophorone	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Methylnaphthalene	**143**		40.3	13.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Methylphenol	ND		202	41.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-1

Date Collected: 11/10/23 08:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-4

Matrix: Solid
Percent Solids: 96.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		403	41.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Naphthalene	**79.3**		40.3	13.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Nitroaniline	ND		202	38.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
3-Nitroaniline	ND		202	35.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Nitroaniline	ND		202	26.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Nitrobenzene	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2-Nitrophenol	ND		101	35.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
4-Nitrophenol	ND		333	90.7	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
N-Nitrosodi-n-propylamine	ND		101	37.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
N-Nitrosodiphenylamine	ND		101	27.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Pentachlorophenol	ND		272	106	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Phenanthrene	**748**		40.3	13.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Phenol	ND		101	38.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
Pyrene	**450**		40.3	16.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4,5-Trichlorophenol	ND		151	33.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1
2,4,6-Trichlorophenol	ND		151	29.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*42*		*34 - 120*	*11/21/23 08:50*	*12/04/23 17:54*	*1*
2-Fluorophenol (Surr)	*36*		*20 - 120*	*11/21/23 08:50*	*12/04/23 17:54*	*1*
Nitrobenzene-d5 (Surr)	*38*		*25 - 120*	*11/21/23 08:50*	*12/04/23 17:54*	*1*
Phenol-d5 (Surr)	*39*		*26 - 120*	*11/21/23 08:50*	*12/04/23 17:54*	*1*
Terphenyl-d14 (Surr)	*50*		*46 - 137*	*11/21/23 08:50*	*12/04/23 17:54*	*1*
2,4,6-Tribromophenol (Surr)	*32*		*10 - 120*	*11/21/23 08:50*	*12/04/23 17:54*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9770**		18.6	4.97	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Antimony	**1.19**	**J**	1.86	0.335	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Arsenic	**9.79**		1.40	0.294	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Barium	**202**		18.6	0.337	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Beryllium	**0.620**		0.466	0.0503	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Cadmium	**0.339**	**J**	0.466	0.0447	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Calcium	**9590**		466	34.0	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Chromium	**17.4**		0.932	0.320	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Cobalt	**12.1**		0.932	0.0690	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Copper	**12.9**		2.33	0.220	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Iron	**16300**		18.6	6.47	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Lead	**52.1**		0.932	0.263	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Magnesium	**1840**		466	14.2	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Manganese	**1300**		6.99	1.21	mg/Kg	☼	11/21/23 11:00	11/27/23 09:22	5
Nickel	**16.6**		3.73	0.462	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Potassium	**793**		466	33.3	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Selenium	**0.936**	**J**	1.86	0.437	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Silver	**0.0803**	**J B**	0.932	0.0755	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Sodium	ND		466	132	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Thallium	ND		1.86	0.372	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Vanadium	**34.5**		4.66	0.766	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1
Zinc	**63.8**		4.66	1.27	mg/Kg	☼	11/21/23 11:00	11/22/23 12:59	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-1

Date Collected: 11/10/23 08:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-4

Matrix: Solid
Percent Solids: 96.7

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0360	J	0.122	0.0219	mg/Kg	☼	11/21/23 12:00	11/27/23 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.7		0.1	0.1	%			11/20/23 15:14	1
Percent Moisture (EPA Moisture)	3.3		0.1	0.1	%			11/20/23 15:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-2

Date Collected: 11/10/23 08:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-5

Matrix: Solid
Percent Solids: 96.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Acenaphthylene	ND		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Acetophenone	ND		102	25.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Anthracene	**58.1**		41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Atrazine	ND		338	70.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzaldehyde	ND		338	57.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzo[a]anthracene	**427**		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzo[a]pyrene	**355**		41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzo[b]fluoranthene	**392**		41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzo[g,h,i]perylene	**402**		41.0	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Benzo[k]fluoranthene	**66.1**		41.0	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
1,1'-Biphenyl	ND		102	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Bis(2-chloroethoxy)methane	ND		102	20.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Bis(2-chloroethyl)ether	ND		102	22.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
bis (2-chloroisopropyl) ether	ND		102	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Bis(2-ethylhexyl) phthalate	ND		154	57.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Bromophenyl phenyl ether	ND		102	32.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Butyl benzyl phthalate	ND		154	52.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Caprolactam	ND		338	70.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Carbazole	**51.5**	**J**	102	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Chloroaniline	ND		154	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Chloro-3-methylphenol	ND		154	38.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Chloronaphthalene	ND		102	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Chlorophenol	ND		102	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Chlorophenyl phenyl ether	ND		102	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Chrysene	**815**		41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Dibenz(a,h)anthracene	**173**		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Dibenzofuran	ND		102	29.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
3,3'-Dichlorobenzidine	ND		154	97.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4-Dichlorophenol	ND		154	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Diethyl phthalate	ND		154	44.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4-Dimethylphenol	ND		154	36.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Dimethyl phthalate	ND		154	41.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Di-n-butyl phthalate	ND		154	24.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4,6-Dinitro-2-methylphenol	ND		338	107	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4-Dinitrophenol	ND		338	175	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4-Dinitrotoluene	ND		205	23.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,6-Dinitrotoluene	ND		205	36.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Di-n-octyl phthalate	ND		154	51.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Fluoranthene	**232**		41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Fluorene	**16.9**	**J**	41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Hexachlorobenzene	ND		41.0	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Hexachlorobutadiene	ND		102	21.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Hexachlorocyclopentadiene	ND		338	40.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Hexachloroethane	ND		102	32.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Indeno[1,2,3-cd]pyrene	**166**		41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Isophorone	ND		102	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Methylnaphthalene	**170**		41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Methylphenol	ND		205	42.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-2

Date Collected: 11/10/23 08:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-5

Matrix: Solid
Percent Solids: 96.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		410	42.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Naphthalene	**94.5**		41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Nitroaniline	ND		205	38.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
3-Nitroaniline	ND		205	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Nitroaniline	ND		205	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Nitrobenzene	ND		102	22.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2-Nitrophenol	ND		102	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
4-Nitrophenol	ND		338	92.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
N-Nitrosodi-n-propylamine	ND		102	37.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
N-Nitrosodiphenylamine	ND		102	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Pentachlorophenol	ND		277	108	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Phenanthrene	**834**		41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Phenol	ND		102	38.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
Pyrene	**587**		41.0	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4,5-Trichlorophenol	ND		154	33.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1
2,4,6-Trichlorophenol	ND		154	29.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*54*		*34 - 120*	*11/21/23 08:50*	*12/01/23 19:58*	*1*
2-Fluorophenol (Surr)	*46*		*20 - 120*	*11/21/23 08:50*	*12/01/23 19:58*	*1*
Nitrobenzene-d5 (Surr)	*55*		*25 - 120*	*11/21/23 08:50*	*12/01/23 19:58*	*1*
Phenol-d5 (Surr)	*52*		*26 - 120*	*11/21/23 08:50*	*12/01/23 19:58*	*1*
Terphenyl-d14 (Surr)	*58*		*46 - 137*	*11/21/23 08:50*	*12/01/23 19:58*	*1*
2,4,6-Tribromophenol (Surr)	*41*		*10 - 120*	*11/21/23 08:50*	*12/01/23 19:58*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9490**		14.5	3.86	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Antimony	**1.19**	**J F1**	1.45	0.260	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Arsenic	**8.19**		1.09	0.229	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Barium	**178**		14.5	0.262	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Beryllium	**0.585**		0.362	0.0391	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Cadmium	**0.330**	**J**	0.362	0.0348	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Calcium	**9320**		362	26.4	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Chromium	**16.0**		0.724	0.248	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Cobalt	**11.6**		0.724	0.0536	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Copper	**13.5**		1.81	0.171	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Iron	**14700**		14.5	5.03	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Lead	**42.2**		0.724	0.204	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Magnesium	**1820**		362	11.1	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Manganese	**1030**		5.43	0.938	mg/Kg	☼	11/21/23 11:00	11/27/23 09:00	5
Nickel	**15.7**		2.90	0.359	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Potassium	**799**		362	25.9	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Selenium	**0.997**	**J**	1.45	0.340	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Silver	ND		0.724	0.0587	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Sodium	ND		362	103	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Thallium	ND		1.45	0.289	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Vanadium	**30.5**		3.62	0.595	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1
Zinc	**65.4**		3.62	0.990	mg/Kg	☼	11/21/23 11:00	11/22/23 12:16	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-2

Date Collected: 11/10/23 08:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-5

Matrix: Solid
Percent Solids: 96.6

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0381	J	0.107	0.0193	mg/Kg	☼	11/21/23 12:00	11/27/23 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.6		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.4		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-3

Date Collected: 11/10/23 08:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-6

Matrix: Solid
Percent Solids: 96.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Acenaphthylene	ND		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Anthracene	**49.9**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Atrazine	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzaldehyde	ND		336	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzo[a]anthracene	**359**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzo[a]pyrene	**276**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzo[b]fluoranthene	**303**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzo[g,h,i]perylene	**318**		40.7	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Benzo[k]fluoranthene	**49.8**		40.7	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Bis(2-ethylhexyl) phthalate	ND		153	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Butyl benzyl phthalate	ND		153	51.9	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Caprolactam	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Carbazole	**42.6**	**J**	102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Chrysene	**666**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Dibenz(a,h)anthracene	**141**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Dibenzofuran	ND		102	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
3,3'-Dichlorobenzidine	ND		153	96.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Dimethyl phthalate	ND		153	40.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Di-n-butyl phthalate	ND		153	24.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Fluoranthene	**167**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Fluorene	**15.0**	**J**	40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Hexachlorobenzene	ND		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Indeno[1,2,3-cd]pyrene	**141**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Methylnaphthalene	**135**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-3

Date Collected: 11/10/23 08:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-6

Matrix: Solid
Percent Solids: 96.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		407	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Naphthalene	**74.4**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
3-Nitroaniline	ND		204	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2-Nitrophenol	ND		102	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
4-Nitrophenol	ND		336	91.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Phenanthrene	**674**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
Pyrene	**493**		40.7	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 20:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*50*		*34 - 120*	*11/21/23 08:50*	*12/01/23 20:22*	*1*
2-Fluorophenol (Surr)	*46*		*20 - 120*	*11/21/23 08:50*	*12/01/23 20:22*	*1*
Nitrobenzene-d5 (Surr)	*50*		*25 - 120*	*11/21/23 08:50*	*12/01/23 20:22*	*1*
Phenol-d5 (Surr)	*51*		*26 - 120*	*11/21/23 08:50*	*12/01/23 20:22*	*1*
Terphenyl-d14 (Surr)	*54*		*46 - 137*	*11/21/23 08:50*	*12/01/23 20:22*	*1*
2,4,6-Tribromophenol (Surr)	*24*		*10 - 120*	*11/21/23 08:50*	*12/01/23 20:22*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8600**		14.9	3.98	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Antimony	**0.709**	**J**	1.49	0.268	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Arsenic	**7.79**		1.12	0.236	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Barium	**145**		14.9	0.270	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Beryllium	**0.556**		0.373	0.0403	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Cadmium	**0.272**	**J**	0.373	0.0358	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Calcium	**9660**		373	27.2	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Chromium	**15.1**		0.746	0.256	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Cobalt	**8.72**		0.746	0.0552	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Copper	**11.5**		1.86	0.176	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Iron	**13300**		14.9	5.18	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Lead	**40.7**		0.746	0.210	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Magnesium	**1670**		373	11.4	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Manganese	**686**		1.12	0.193	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Nickel	**13.5**		2.98	0.370	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Potassium	**793**		373	26.7	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Selenium	**0.853**	**J**	1.49	0.350	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Silver	ND		0.746	0.0604	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Sodium	ND		373	106	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Thallium	ND		1.49	0.298	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Vanadium	**29.4**		3.73	0.613	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1
Zinc	**56.1**		3.73	1.02	mg/Kg	☼	11/21/23 11:00	11/22/23 13:04	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-3

Date Collected: 11/10/23 08:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-6

Matrix: Solid
Percent Solids: 96.5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0337	J	0.105	0.0190	mg/Kg	☼	11/21/23 12:00	11/27/23 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.5		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.5		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-1

Date Collected: 11/10/23 08:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-7

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**489**		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Acenaphthylene	ND		81.8	30.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Acetophenone	ND		204	51.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Anthracene	**911**		81.8	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Atrazine	ND		674	141	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzaldehyde	ND		674	114	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzo[a]anthracene	**1820**		81.8	30.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzo[a]pyrene	**1670**		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzo[b]fluoranthene	**2460**		81.8	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzo[g,h,i]perylene	**1390**		81.8	55.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Benzo[k]fluoranthene	**750**		81.8	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
1,1'-Biphenyl	ND		204	57.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Bis(2-chloroethoxy)methane	ND		204	40.9	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Bis(2-chloroethyl)ether	ND		204	45.0	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
bis (2-chloroisopropyl) ether	ND		204	53.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Bis(2-ethylhexyl) phthalate	ND		307	114	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Bromophenyl phenyl ether	ND		204	65.4	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Butyl benzyl phthalate	ND		307	104	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Caprolactam	ND		674	141	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Carbazole	**445**		204	55.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Chloroaniline	ND		307	32.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Chloro-3-methylphenol	ND		307	77.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Chloronaphthalene	ND		204	57.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Chlorophenol	ND		204	53.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Chlorophenyl phenyl ether	ND		204	57.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Chrysene	**2020**		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Dibenz(a,h)anthracene	**374**		81.8	30.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Dibenzofuran	**289**		204	59.3	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
3,3'-Dichlorobenzidine	ND		307	194	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4-Dichlorophenol	ND		307	55.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Diethyl phthalate	ND		307	87.9	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4-Dimethylphenol	ND		307	73.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Dimethyl phthalate	ND		307	81.8	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Di-n-butyl phthalate	ND		307	49.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4,6-Dinitro-2-methylphenol	ND		674	213	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4-Dinitrophenol	ND		674	349	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4-Dinitrotoluene	ND		409	47.0	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,6-Dinitrotoluene	ND		409	73.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Di-n-octyl phthalate	ND		307	102	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Fluoranthene	**4680**		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Fluorene	**461**		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Hexachlorobenzene	ND		81.8	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Hexachlorobutadiene	ND		204	42.9	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Hexachlorocyclopentadiene	ND		674	79.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Hexachloroethane	ND		204	65.4	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Indeno[1,2,3-cd]pyrene	**931**		81.8	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Isophorone	ND		204	53.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Methylnaphthalene	**150**		81.8	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Methylphenol	ND		409	83.8	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-1

Date Collected: 11/10/23 08:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-7

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		818	83.8	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Naphthalene	**264**		81.8	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Nitroaniline	ND		409	77.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
3-Nitroaniline	ND		409	71.5	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Nitroaniline	ND		409	53.1	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Nitrobenzene	ND		204	45.0	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2-Nitrophenol	ND		204	71.5	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
4-Nitrophenol	ND		674	184	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
N-Nitrosodi-n-propylamine	ND		204	75.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
N-Nitrosodiphenylamine	ND		204	55.2	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Pentachlorophenol	ND		552	215	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Phenanthrene	**3990**		81.8	26.6	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Phenol	ND		204	77.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
Pyrene	**3930**		81.8	32.7	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4,5-Trichlorophenol	ND		307	67.4	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2
2,4,6-Trichlorophenol	ND		307	59.3	ug/Kg	☼	11/21/23 08:50	12/01/23 13:57	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*54*		*34 - 120*	*11/21/23 08:50*	*12/01/23 13:57*	*2*
2-Fluorophenol (Surr)	*47*		*20 - 120*	*11/21/23 08:50*	*12/01/23 13:57*	*2*
Nitrobenzene-d5 (Surr)	*54*		*25 - 120*	*11/21/23 08:50*	*12/01/23 13:57*	*2*
Phenol-d5 (Surr)	*52*		*26 - 120*	*11/21/23 08:50*	*12/01/23 13:57*	*2*
Terphenyl-d14 (Surr)	*59*		*46 - 137*	*11/21/23 08:50*	*12/01/23 13:57*	*2*
2,4,6-Tribromophenol (Surr)	*50*		*10 - 120*	*11/21/23 08:50*	*12/01/23 13:57*	*2*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8100**		16.2	4.32	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Antimony	**2.50**		1.62	0.291	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Arsenic	**7.26**		1.22	0.256	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Barium	**157**		16.2	0.293	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Beryllium	**0.480**		0.405	0.0438	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Cadmium	**0.554**		0.405	0.0389	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Calcium	**10900**		405	29.5	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Chromium	**14.2**		0.811	0.278	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Cobalt	**6.84**		0.811	0.0600	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Copper	**22.3**		2.03	0.191	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Iron	**13000**		16.2	5.63	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Lead	**112**		0.811	0.229	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Magnesium	**2210**		405	12.4	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Manganese	**612**		1.22	0.210	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Nickel	**12.9**		3.24	0.402	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Potassium	**810**		405	29.0	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Selenium	**0.799**	**J**	1.62	0.380	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Silver	**0.0683**	**J B**	0.811	0.0657	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Sodium	ND		405	115	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Thallium	ND		1.62	0.323	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Vanadium	**27.3**		4.05	0.666	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1
Zinc	**143**		4.05	1.11	mg/Kg	☼	11/21/23 11:00	11/22/23 13:08	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-1

Date Collected: 11/10/23 08:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-7

Matrix: Solid
Percent Solids: 97.1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0598	J	0.0922	0.0166	mg/Kg	☼	11/21/23 12:00	11/27/23 16:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.1		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.9		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-2

Date Collected: 11/10/23 09:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-8

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**211**		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Acenaphthylene	ND		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Acetophenone	ND		102	25.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Anthracene	**476**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Atrazine	ND		336	70.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzaldehyde	ND		336	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzo[a]anthracene	**1420**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzo[a]pyrene	**1150**		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzo[b]fluoranthene	**1600**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzo[g,h,i]perylene	**1040**		40.7	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Benzo[k]fluoranthene	**457**		40.7	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
1,1'-Biphenyl	**38.5**	**J**	102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Bis(2-ethylhexyl) phthalate	ND		153	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Butyl benzyl phthalate	ND		153	51.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Caprolactam	ND		336	70.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Carbazole	**255**		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Chrysene	**1820**		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Dibenz(a,h)anthracene	**361**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Dibenzofuran	**152**		102	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
3,3'-Dichlorobenzidine	ND		153	96.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4-Dimethylphenol	ND		153	36.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Dimethyl phthalate	ND		153	40.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Di-n-butyl phthalate	ND		153	24.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,6-Dinitrotoluene	ND		204	36.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Fluoranthene	**2500**		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Fluorene	**226**		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Hexachlorobenzene	ND		40.7	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Indeno[1,2,3-cd]pyrene	**602**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Methylnaphthalene	**252**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Methylphenol	ND		204	41.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-2

Date Collected: 11/10/23 09:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-8

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		407	41.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Naphthalene	**243**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
3-Nitroaniline	ND		204	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2-Nitrophenol	ND		102	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
4-Nitrophenol	ND		336	91.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
N-Nitrosodi-n-propylamine	ND		102	37.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Phenanthrene	**2690**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
Pyrene	**2530**		40.7	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*54*		*34 - 120*	*11/21/23 08:50*	*12/01/23 19:10*	*1*
2-Fluorophenol (Surr)	*45*		*20 - 120*	*11/21/23 08:50*	*12/01/23 19:10*	*1*
Nitrobenzene-d5 (Surr)	*54*		*25 - 120*	*11/21/23 08:50*	*12/01/23 19:10*	*1*
Phenol-d5 (Surr)	*51*		*26 - 120*	*11/21/23 08:50*	*12/01/23 19:10*	*1*
Terphenyl-d14 (Surr)	*57*		*46 - 137*	*11/21/23 08:50*	*12/01/23 19:10*	*1*
2,4,6-Tribromophenol (Surr)	*37*		*10 - 120*	*11/21/23 08:50*	*12/01/23 19:10*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7070**		17.1	4.57	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Antimony	**3.50**		1.71	0.308	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Arsenic	**7.82**		1.29	0.271	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Barium	**143**		17.1	0.310	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Beryllium	**0.461**		0.429	0.0463	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Cadmium	**0.930**		0.429	0.0411	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Calcium	**16300**		429	31.2	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Chromium	**14.0**		0.857	0.294	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Cobalt	**5.33**		0.857	0.0634	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Copper	**25.1**		2.14	0.202	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Iron	**12800**		17.1	5.95	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Lead	**152**		0.857	0.242	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Magnesium	**1870**		429	13.1	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Manganese	**572**		1.29	0.222	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Nickel	**12.6**		3.43	0.425	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Potassium	**748**		429	30.6	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Selenium	**0.805**	**J**	1.71	0.402	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Silver	**0.0927**	**J B**	0.857	0.0694	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Sodium	ND		429	122	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Thallium	ND		1.71	0.342	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Vanadium	**26.9**		4.29	0.704	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1
Zinc	**196**		4.29	1.17	mg/Kg	☼	11/21/23 11:00	11/22/23 13:13	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-2

Date Collected: 11/10/23 09:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-8

Matrix: Solid
Percent Solids: 97.2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0696	J	0.110	0.0198	mg/Kg	☼	11/21/23 12:00	11/27/23 16:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.2		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.8		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-3

Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**106**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Acenaphthylene	ND		40.4	15.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Acetophenone	ND		101	25.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Anthracene	**210**		40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Atrazine	ND		333	69.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzaldehyde	ND		333	56.6	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzo[a]anthracene	**516**		40.4	15.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzo[a]pyrene	**509**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzo[b]fluoranthene	**554**		40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzo[g,h,i]perylene	**454**		40.4	27.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Benzo[k]fluoranthene	**172**		40.4	10.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
1,1'-Biphenyl	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Bis(2-chloroethyl)ether	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
bis (2-chloroisopropyl) ether	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Bis(2-ethylhexyl) phthalate	ND		152	56.6	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Bromophenyl phenyl ether	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Butyl benzyl phthalate	ND		152	51.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Caprolactam	ND		333	69.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Carbazole	**91.9**	**J**	101	27.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Chloro-3-methylphenol	ND		152	38.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Chloronaphthalene	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Chlorophenol	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Chlorophenyl phenyl ether	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Chrysene	**784**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Dibenz(a,h)anthracene	**138**		40.4	15.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Dibenzofuran	**59.6**	**J**	101	29.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
3,3'-Dichlorobenzidine	ND		152	96.0	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4-Dichlorophenol	ND		152	27.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Diethyl phthalate	ND		152	43.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4-Dimethylphenol	ND		152	36.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Dimethyl phthalate	ND		152	40.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Di-n-butyl phthalate	**39.4**	**J**	152	24.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4,6-Dinitro-2-methylphenol	ND		333	105	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4-Dinitrophenol	ND		333	173	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4-Dinitrotoluene	ND		202	23.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,6-Dinitrotoluene	ND		202	36.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Di-n-octyl phthalate	ND		152	50.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Fluoranthene	**994**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Fluorene	**89.6**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Hexachlorobenzene	ND		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Hexachlorocyclopentadiene	ND		333	39.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Hexachloroethane	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Indeno[1,2,3-cd]pyrene	**243**		40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Isophorone	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Methylnaphthalene	**120**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Methylphenol	ND		202	41.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1

Client Sample ID: DU-15-3

Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		404	41.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Naphthalene	**81.4**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Nitroaniline	ND		202	38.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
3-Nitroaniline	ND		202	35.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Nitroaniline	ND		202	26.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Nitrobenzene	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2-Nitrophenol	ND		101	35.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
4-Nitrophenol	ND		333	91.0	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
N-Nitrosodi-n-propylamine	ND		101	37.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
N-Nitrosodiphenylamine	ND		101	27.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Pentachlorophenol	ND		273	106	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Phenanthrene	**1170**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Phenol	ND		101	38.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
Pyrene	**1040**		40.4	16.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4,5-Trichlorophenol	ND		152	33.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1
2,4,6-Trichlorophenol	ND		152	29.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*17*	*S1-*	*34 - 120*	*11/21/23 08:50*	*12/06/23 16:14*	*1*
2-Fluorophenol (Surr)	*15*	*S1-*	*20 - 120*	*11/21/23 08:50*	*12/06/23 16:14*	*1*
Nitrobenzene-d5 (Surr)	*15*	*S1-*	*25 - 120*	*11/21/23 08:50*	*12/06/23 16:14*	*1*
Phenol-d5 (Surr)	*15*	*S1-*	*26 - 120*	*11/21/23 08:50*	*12/06/23 16:14*	*1*
Terphenyl-d14 (Surr)	*18*	*S1-*	*46 - 137*	*11/21/23 08:50*	*12/06/23 16:14*	*1*
2,4,6-Tribromophenol (Surr)	*13*		*10 - 120*	*11/21/23 08:50*	*12/06/23 16:14*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**66.4**	**H**	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Acenaphthylene	ND	H	40.6	15.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Acetophenone	ND	H	102	25.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Anthracene	**197**	**H**	40.6	12.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Atrazine	ND	H	335	70.1	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzaldehyde	ND	H	335	56.9	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzo[a]anthracene	**607**	**H**	40.6	15.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzo[a]pyrene	**564**	**H**	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzo[b]fluoranthene	**597**	**H**	40.6	12.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzo[g,h,i]perylene	**546**	**H**	40.6	27.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Benzo[k]fluoranthene	**140**	**H**	40.6	10.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
1,1'-Biphenyl	ND	H	102	28.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Bis(2-chloroethoxy)methane	ND	H	102	20.3	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Bis(2-chloroethyl)ether	ND	H	102	22.3	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
bis (2-chloroisopropyl) ether	ND	H	102	26.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Bis(2-ethylhexyl) phthalate	ND	H	152	56.9	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Bromophenyl phenyl ether	ND	H	102	32.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Butyl benzyl phthalate	ND	H	152	51.8	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Caprolactam	ND	H	335	70.1	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Carbazole	**107**	**H**	102	27.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Chloroaniline	ND	H	152	16.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Chloro-3-methylphenol	ND	H	152	38.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2-Chloronaphthalene	ND	H	102	28.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-3

Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	102	26.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Chlorophenyl phenyl ether	ND	H	102	28.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Chrysene	**1030**	**H**	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Dibenz(a,h)anthracene	**193**	**H**	40.6	15.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Dibenzofuran	**60.6**	**J H**	102	29.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
3,3'-Dichlorobenzidine	ND	H	152	96.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4-Dichlorophenol	ND	H	152	27.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Diethyl phthalate	ND	H	152	43.7	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4-Dimethylphenol	ND	H	152	36.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Dimethyl phthalate	ND	H	152	40.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Di-n-butyl phthalate	**41.0**	**J H B**	152	24.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4,6-Dinitro-2-methylphenol	ND	H	335	106	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4-Dinitrophenol	ND	H	335	174	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4-Dinitrotoluene	ND	H	203	23.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,6-Dinitrotoluene	ND	H	203	36.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Di-n-octyl phthalate	ND	H	152	50.8	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Fluoranthene	**752**	**H**	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Fluorene	**84.4**	**H**	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Hexachlorobenzene	ND	H	40.6	14.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Hexachlorobutadiene	ND	H	102	21.3	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Hexachlorocyclopentadiene	ND	H	335	39.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Hexachloroethane	ND	H	102	32.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Indeno[1,2,3-cd]pyrene	**251**	**H**	40.6	12.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Isophorone	ND	H	102	26.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2-Methylnaphthalene	**195**	**H**	40.6	13.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2-Methylphenol	ND	H	203	41.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
3 & 4 Methylphenol	ND	H	406	41.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Naphthalene	**121**	**H**	40.6	13.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2-Nitroaniline	ND	H	203	38.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
3-Nitroaniline	ND	H	203	35.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Nitroaniline	ND	H	203	26.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Nitrobenzene	ND	H	102	22.3	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2-Nitrophenol	ND	H	102	35.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
4-Nitrophenol	ND	H	335	91.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
N-Nitrosodi-n-propylamine	ND	H	102	37.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
N-Nitrosodiphenylamine	ND	H	102	27.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Pentachlorophenol	ND	H	274	107	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Phenanthrene	**1300**	**H**	40.6	13.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Phenol	ND	H	102	38.6	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
Pyrene	**993**	**H**	40.6	16.2	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4,5-Trichlorophenol	ND	H	152	33.5	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1
2,4,6-Trichlorophenol	ND	H	152	29.4	ug/Kg	☼	12/07/23 09:20	12/08/23 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*40*		*34 - 120*	*12/07/23 09:20*	*12/08/23 11:33*	*1*
2-Fluorophenol (Surr)	*32*		*20 - 120*	*12/07/23 09:20*	*12/08/23 11:33*	*1*
Nitrobenzene-d5 (Surr)	*33*		*25 - 120*	*12/07/23 09:20*	*12/08/23 11:33*	*1*
Phenol-d5 (Surr)	*35*		*26 - 120*	*12/07/23 09:20*	*12/08/23 11:33*	*1*
Terphenyl-d14 (Surr)	*40*	*S1-*	*46 - 137*	*12/07/23 09:20*	*12/08/23 11:33*	*1*
2,4,6-Tribromophenol (Surr)	*29*		*10 - 120*	*12/07/23 09:20*	*12/08/23 11:33*	*1*

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-3

Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9

Matrix: Solid
Percent Solids: 97.0

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7090		14.3	3.82	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Antimony	3.22		1.43	0.257	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Arsenic	6.93		1.07	0.226	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Barium	159		14.3	0.259	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Beryllium	0.473		0.358	0.0387	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Cadmium	1.47		0.358	0.0344	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Calcium	17100		358	26.1	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Chromium	14.8		0.716	0.246	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Cobalt	7.04		0.716	0.0530	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Copper	18.4		1.79	0.169	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Iron	11800		14.3	4.97	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Lead	158		0.716	0.202	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Magnesium	1530		358	10.9	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Manganese	808		5.37	0.927	mg/Kg	☼	11/21/23 11:00	11/27/23 09:26	5
Nickel	13.7		2.86	0.355	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Potassium	755		358	25.6	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Selenium	1.00	J	1.43	0.336	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Silver	0.0827	J B	0.716	0.0580	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Sodium	ND		358	102	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Thallium	ND		1.43	0.286	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Vanadium	25.6		3.58	0.588	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1
Zinc	195		3.58	0.979	mg/Kg	☼	11/21/23 11:00	11/22/23 13:25	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0477	J	0.117	0.0210	mg/Kg	☼	11/21/23 12:00	11/27/23 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-1

Date Collected: 11/10/23 09:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-10

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Acenaphthylene	ND		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Acetophenone	ND		101	25.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Anthracene	**36.5**	**J**	40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Atrazine	ND		335	70.0	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzaldehyde	ND		335	56.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzo[a]anthracene	**251**		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzo[a]pyrene	**211**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzo[b]fluoranthene	**208**		40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzo[g,h,i]perylene	**250**		40.6	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Benzo[k]fluoranthene	**39.2**	**J**	40.6	10.1	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
1,1'-Biphenyl	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Bis(2-chloroethoxy)methane	ND		101	20.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
bis (2-chloroisopropyl) ether	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Bis(2-ethylhexyl) phthalate	ND		152	56.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Bromophenyl phenyl ether	ND		101	32.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Butyl benzyl phthalate	ND		152	51.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Caprolactam	ND		335	70.0	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Carbazole	**31.4**	**J**	101	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Chloro-3-methylphenol	ND		152	38.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Chloronaphthalene	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Chlorophenol	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Chlorophenyl phenyl ether	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Chrysene	**489**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Dibenz(a,h)anthracene	**106**		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Dibenzofuran	ND		101	29.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
3,3'-Dichlorobenzidine	ND		152	96.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4-Dichlorophenol	ND		152	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Diethyl phthalate	ND		152	43.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4-Dimethylphenol	ND		152	36.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Dimethyl phthalate	ND		152	40.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Di-n-butyl phthalate	ND		152	24.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4,6-Dinitro-2-methylphenol	ND		335	105	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4-Dinitrophenol	ND		335	173	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4-Dinitrotoluene	ND		203	23.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,6-Dinitrotoluene	ND		203	36.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Di-n-octyl phthalate	ND		152	50.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Fluoranthene	**117**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Fluorene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Hexachlorobenzene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Hexachlorobutadiene	ND		101	21.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Hexachlorocyclopentadiene	ND		335	39.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Hexachloroethane	ND		101	32.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Indeno[1,2,3-cd]pyrene	**108**		40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Isophorone	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Methylnaphthalene	**98.1**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Methylphenol	ND		203	41.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-1

Date Collected: 11/10/23 09:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-10

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		406	41.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Naphthalene	**50.2**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Nitroaniline	ND		203	38.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
3-Nitroaniline	ND		203	35.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Nitroaniline	ND		203	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2-Nitrophenol	ND		101	35.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
4-Nitrophenol	ND		335	91.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
N-Nitrosodi-n-propylamine	ND		101	37.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
N-Nitrosodiphenylamine	ND		101	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Pentachlorophenol	ND		274	107	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Phenanthrene	**541**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Phenol	ND		101	38.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
Pyrene	**359**		40.6	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4,5-Trichlorophenol	ND		152	33.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1
2,4,6-Trichlorophenol	ND		152	29.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*40*		*34 - 120*	*11/21/23 08:50*	*12/01/23 14:46*	*1*
2-Fluorophenol (Surr)	*34*		*20 - 120*	*11/21/23 08:50*	*12/01/23 14:46*	*1*
Nitrobenzene-d5 (Surr)	*38*		*25 - 120*	*11/21/23 08:50*	*12/01/23 14:46*	*1*
Phenol-d5 (Surr)	*38*		*26 - 120*	*11/21/23 08:50*	*12/01/23 14:46*	*1*
Terphenyl-d14 (Surr)	*44*	*S1-*	*46 - 137*	*11/21/23 08:50*	*12/01/23 14:46*	*1*
2,4,6-Tribromophenol (Surr)	*38*		*10 - 120*	*11/21/23 08:50*	*12/01/23 14:46*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**6210**		15.0	4.00	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Antimony	**0.745**	**J**	1.50	0.269	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Arsenic	**6.56**		1.12	0.237	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Barium	**129**		15.0	0.271	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Beryllium	**0.464**		0.375	0.0405	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Cadmium	**0.197**	**J**	0.375	0.0360	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Calcium	**6550**		375	27.3	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Chromium	**11.2**		0.749	0.257	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Cobalt	**6.06**		0.749	0.0555	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Copper	**8.36**		1.87	0.177	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Iron	**10700**		15.0	5.20	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Lead	**32.9**		0.749	0.211	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Magnesium	**1380**		375	11.5	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Manganese	**716**		1.12	0.194	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Nickel	**10.0**		3.00	0.372	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Potassium	**522**		375	26.8	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Selenium	**0.760**	**J**	1.50	0.351	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Silver	ND		0.749	0.0607	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Sodium	ND		375	106	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Thallium	ND		1.50	0.299	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Vanadium	**25.3**		3.75	0.616	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1
Zinc	**38.8**		3.75	1.02	mg/Kg	☼	11/21/23 11:00	11/22/23 13:30	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-1

Date Collected: 11/10/23 09:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-10

Matrix: Solid
Percent Solids: 97.4

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0244	J	0.0906	0.0163	mg/Kg	☼	11/21/23 12:00	11/27/23 16:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.4		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.6		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-2

Date Collected: 11/10/23 09:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-11

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Acenaphthylene	ND		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Anthracene	**26.7**	**J**	40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Atrazine	ND		336	70.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzaldehyde	ND		336	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzo[a]anthracene	**180**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzo[a]pyrene	**149**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzo[b]fluoranthene	**143**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzo[g,h,i]perylene	**178**		40.8	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Benzo[k]fluoranthene	**35.4**	**J**	40.8	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Bis(2-ethylhexyl) phthalate	ND		153	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Butyl benzyl phthalate	ND		153	52.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Caprolactam	ND		336	70.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Chrysene	**350**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Dibenz(a,h)anthracene	**69.8**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Dibenzofuran	ND		102	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
3,3'-Dichlorobenzidine	ND		153	96.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Dimethyl phthalate	ND		153	40.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Di-n-butyl phthalate	ND		153	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4-Dinitrotoluene	ND		204	23.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Di-n-octyl phthalate	ND		153	51.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Fluoranthene	**89.6**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Fluorene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Hexachlorobenzene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Hexachlorocyclopentadiene	ND		336	39.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Indeno[1,2,3-cd]pyrene	**75.9**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Methylnaphthalene	**69.0**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1

Client Sample ID: DU-16-2

Date Collected: 11/10/23 09:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-11

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		408	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Naphthalene	**41.5**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
3-Nitroaniline	ND		204	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2-Nitrophenol	ND		102	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
4-Nitrophenol	ND		336	91.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Phenanthrene	**366**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
Pyrene	**262**		40.8	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1
2,4,6-Trichlorophenol	ND		153	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*35*		*34 - 120*	*11/21/23 08:50*	*12/01/23 15:10*	*1*
2-Fluorophenol (Surr)	*31*		*20 - 120*	*11/21/23 08:50*	*12/01/23 15:10*	*1*
Nitrobenzene-d5 (Surr)	*34*		*25 - 120*	*11/21/23 08:50*	*12/01/23 15:10*	*1*
Phenol-d5 (Surr)	*34*		*26 - 120*	*11/21/23 08:50*	*12/01/23 15:10*	*1*
Terphenyl-d14 (Surr)	*38*	*S1-*	*46 - 137*	*11/21/23 08:50*	*12/01/23 15:10*	*1*
2,4,6-Tribromophenol (Surr)	*27*		*10 - 120*	*11/21/23 08:50*	*12/01/23 15:10*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7550**		16.1	4.30	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Antimony	**0.616**	**J**	1.61	0.289	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Arsenic	**6.85**		1.21	0.255	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Barium	**145**		16.1	0.292	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Beryllium	**0.529**		0.403	0.0435	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Cadmium	**0.255**	**J**	0.403	0.0387	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Calcium	**5870**		403	29.4	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Chromium	**13.6**		0.806	0.276	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Cobalt	**8.44**		0.806	0.0596	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Copper	**10.7**		2.01	0.190	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Iron	**12000**		16.1	5.59	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Lead	**33.6**		0.806	0.227	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Magnesium	**1650**		403	12.3	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Manganese	**709**		1.21	0.209	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Nickel	**13.7**		3.22	0.400	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Potassium	**675**		403	28.8	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Selenium	**0.980**	**J**	1.61	0.378	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Silver	ND		0.806	0.0653	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Sodium	ND		403	114	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Thallium	ND		1.61	0.321	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Vanadium	**25.6**		4.03	0.662	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1
Zinc	**48.9**		4.03	1.10	mg/Kg	☼	11/21/23 11:00	11/22/23 13:34	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-2

Date Collected: 11/10/23 09:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-11

Matrix: Solid
Percent Solids: 97.0

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0296	J	0.0967	0.0174	mg/Kg	☼	11/21/23 12:00	11/27/23 16:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-3

Date Collected: 11/10/23 09:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-12

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Acenaphthylene	ND		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Acetophenone	ND		103	25.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Anthracene	**23.0**	**J**	41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Atrazine	ND		338	70.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzaldehyde	ND		338	57.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzo[a]anthracene	**152**		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzo[a]pyrene	**131**		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzo[b]fluoranthene	**123**		41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzo[g,h,i]perylene	**150**		41.0	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Benzo[k]fluoranthene	**29.2**	**J**	41.0	10.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
1,1'-Biphenyl	ND		103	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Bis(2-chloroethoxy)methane	ND		103	20.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Bis(2-chloroethyl)ether	ND		103	22.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
bis (2-chloroisopropyl) ether	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Bis(2-ethylhexyl) phthalate	ND		154	57.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Bromophenyl phenyl ether	ND		103	32.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Butyl benzyl phthalate	ND		154	52.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Caprolactam	ND		338	70.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Carbazole	ND		103	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Chloroaniline	ND		154	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Chloro-3-methylphenol	ND		154	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Chloronaphthalene	ND		103	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Chlorophenol	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Chlorophenyl phenyl ether	ND		103	28.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Chrysene	**290**		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Dibenz(a,h)anthracene	**65.4**		41.0	15.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Dibenzofuran	ND		103	29.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
3,3'-Dichlorobenzidine	ND		154	97.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4-Dichlorophenol	ND		154	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Diethyl phthalate	ND		154	44.1	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4-Dimethylphenol	ND		154	36.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Dimethyl phthalate	ND		154	41.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Di-n-butyl phthalate	ND		154	24.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4,6-Dinitro-2-methylphenol	ND		338	107	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4-Dinitrophenol	ND		338	175	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4-Dinitrotoluene	ND		205	23.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,6-Dinitrotoluene	ND		205	36.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Di-n-octyl phthalate	ND		154	51.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Fluoranthene	**71.4**		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Fluorene	ND		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Hexachlorobenzene	ND		41.0	14.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Hexachlorobutadiene	ND		103	21.5	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Hexachlorocyclopentadiene	ND		338	40.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Hexachloroethane	ND		103	32.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Indeno[1,2,3-cd]pyrene	**67.6**		41.0	12.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Isophorone	ND		103	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Methylnaphthalene	**57.2**		41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Methylphenol	ND		205	42.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-3

Date Collected: 11/10/23 09:45
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Lab Sample ID: 240-195376-12

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	**45.2**	**J**	410	42.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Naphthalene	**34.1**	**J**	41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Nitroaniline	ND		205	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
3-Nitroaniline	ND		205	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Nitroaniline	ND		205	26.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Nitrobenzene	ND		103	22.6	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2-Nitrophenol	ND		103	35.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
4-Nitrophenol	ND		338	92.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
N-Nitrosodi-n-propylamine	ND		103	37.9	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
N-Nitrosodiphenylamine	ND		103	27.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Pentachlorophenol	ND		277	108	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Phenanthrene	**304**		41.0	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Phenol	ND		103	39.0	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
Pyrene	**212**		41.0	16.4	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4,5-Trichlorophenol	ND		154	33.8	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1
2,4,6-Trichlorophenol	ND		154	29.7	ug/Kg	☼	11/21/23 08:50	12/01/23 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*37*		*34 - 120*	*11/21/23 08:50*	*12/01/23 15:34*	*1*
2-Fluorophenol (Surr)	*33*		*20 - 120*	*11/21/23 08:50*	*12/01/23 15:34*	*1*
Nitrobenzene-d5 (Surr)	*37*		*25 - 120*	*11/21/23 08:50*	*12/01/23 15:34*	*1*
Phenol-d5 (Surr)	*36*		*26 - 120*	*11/21/23 08:50*	*12/01/23 15:34*	*1*
Terphenyl-d14 (Surr)	*41*	*S1-*	*46 - 137*	*11/21/23 08:50*	*12/01/23 15:34*	*1*
2,4,6-Tribromophenol (Surr)	*29*		*10 - 120*	*11/21/23 08:50*	*12/01/23 15:34*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7510**		15.3	4.08	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Antimony	**0.561**	**J**	1.53	0.274	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Arsenic	**5.81**		1.15	0.242	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Barium	**129**		15.3	0.277	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Beryllium	**0.499**		0.382	0.0413	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Cadmium	**0.236**	**J**	0.382	0.0367	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Calcium	**7540**		382	27.9	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Chromium	**14.0**		0.764	0.262	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Cobalt	**6.05**		0.764	0.0566	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Copper	**11.0**		1.91	0.180	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Iron	**11800**		15.3	5.31	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Lead	**25.6**		0.764	0.216	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Magnesium	**2150**		382	11.7	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Manganese	**468**		1.15	0.198	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Nickel	**14.5**		3.06	0.379	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Potassium	**750**		382	27.3	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Selenium	**0.594**	**J**	1.53	0.358	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Silver	ND		0.764	0.0619	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Sodium	ND		382	108	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Thallium	ND		1.53	0.305	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Vanadium	**23.0**		3.82	0.628	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1
Zinc	**49.7**		3.82	1.04	mg/Kg	☼	11/21/23 11:00	11/22/23 13:39	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-3

Date Collected: 11/10/23 09:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-12

Matrix: Solid
Percent Solids: 96.9

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0265	J	0.109	0.0196	mg/Kg	☼	11/21/23 12:00	11/27/23 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.9		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.1		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-1

Date Collected: 11/10/23 10:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-13

Matrix: Solid
Percent Solids: 97.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Acenaphthylene	ND		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Acetophenone	ND		101	25.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Anthracene	**19.5**	**J**	40.5	12.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Atrazine	ND		334	69.9	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzaldehyde	ND		334	56.7	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzo[a]anthracene	**123**		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzo[a]pyrene	**122**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzo[b]fluoranthene	**97.8**		40.5	12.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzo[g,h,i]perylene	**141**		40.5	27.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Benzo[k]fluoranthene	**20.1**	**J**	40.5	10.1	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
1,1'-Biphenyl	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Bis(2-chloroethoxy)methane	ND		101	20.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
bis (2-chloroisopropyl) ether	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Bis(2-ethylhexyl) phthalate	ND		152	56.7	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Bromophenyl phenyl ether	ND		101	32.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Butyl benzyl phthalate	ND		152	51.7	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Caprolactam	ND		334	69.9	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Carbazole	ND		101	27.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Chloro-3-methylphenol	ND		152	38.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Chloronaphthalene	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Chlorophenol	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Chlorophenyl phenyl ether	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Chrysene	**252**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Dibenz(a,h)anthracene	**55.4**		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Dibenzofuran	ND		101	29.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
3,3'-Dichlorobenzidine	ND		152	96.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4-Dichlorophenol	ND		152	27.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Diethyl phthalate	ND		152	43.6	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4-Dimethylphenol	ND		152	36.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Dimethyl phthalate	ND		152	40.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Di-n-butyl phthalate	ND		152	24.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4,6-Dinitro-2-methylphenol	ND		334	105	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4-Dinitrophenol	ND		334	173	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4-Dinitrotoluene	ND		203	23.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,6-Dinitrotoluene	ND		203	36.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Di-n-octyl phthalate	ND		152	50.7	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Fluoranthene	**53.2**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Fluorene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Hexachlorobenzene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Hexachlorobutadiene	ND		101	21.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Hexachlorocyclopentadiene	ND		334	39.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Hexachloroethane	ND		101	32.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Indeno[1,2,3-cd]pyrene	**57.6**		40.5	12.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Isophorone	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Methylnaphthalene	**58.7**		40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Methylphenol	ND		203	41.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-1

Date Collected: 11/10/23 10:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-13

Matrix: Solid
Percent Solids: 97.5

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		405	41.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Naphthalene	**33.3**	**J**	40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Nitroaniline	ND		203	38.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
3-Nitroaniline	ND		203	35.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Nitroaniline	ND		203	26.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2-Nitrophenol	ND		101	35.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
4-Nitrophenol	ND		334	91.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
N-Nitrosodi-n-propylamine	ND		101	37.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
N-Nitrosodiphenylamine	ND		101	27.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Pentachlorophenol	ND		274	106	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Phenanthrene	**305**		40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Phenol	ND		101	38.5	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
Pyrene	**170**		40.5	16.2	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4,5-Trichlorophenol	ND		152	33.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1
2,4,6-Trichlorophenol	ND		152	29.4	ug/Kg	☼	11/21/23 08:50	12/04/23 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*34*		*34 - 120*	*11/21/23 08:50*	*12/04/23 17:30*	*1*
2-Fluorophenol (Surr)	*30*		*20 - 120*	*11/21/23 08:50*	*12/04/23 17:30*	*1*
Nitrobenzene-d5 (Surr)	*30*		*25 - 120*	*11/21/23 08:50*	*12/04/23 17:30*	*1*
Phenol-d5 (Surr)	*32*		*26 - 120*	*11/21/23 08:50*	*12/04/23 17:30*	*1*
Terphenyl-d14 (Surr)	*41*	*S1-*	*46 - 137*	*11/21/23 08:50*	*12/04/23 17:30*	*1*
2,4,6-Tribromophenol (Surr)	*35*		*10 - 120*	*11/21/23 08:50*	*12/04/23 17:30*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**6350**		14.8	3.93	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Antimony	**0.601**	**J**	1.48	0.265	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Arsenic	**6.70**		1.11	0.233	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Barium	**125**		14.8	0.267	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Beryllium	**0.472**		0.369	0.0398	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Cadmium	**0.191**	**J**	0.369	0.0354	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Calcium	**3090**		369	26.9	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Chromium	**10.9**		0.738	0.253	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Cobalt	**5.98**		0.738	0.0546	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Copper	**8.23**		1.84	0.174	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Iron	**11000**		14.8	5.12	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Lead	**26.9**		0.738	0.208	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Magnesium	**1150**		369	11.3	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Manganese	**642**		1.11	0.191	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Nickel	**9.30**		2.95	0.366	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Potassium	**604**		369	26.4	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Selenium	**0.820**	**J**	1.48	0.346	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Silver	ND		0.738	0.0598	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Sodium	ND		369	105	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Thallium	ND		1.48	0.294	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Vanadium	**25.7**		3.69	0.606	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1
Zinc	**36.9**		3.69	1.01	mg/Kg	☼	11/21/23 11:00	11/22/23 13:43	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-1

Date Collected: 11/10/23 10:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-13

Matrix: Solid
Percent Solids: 97.5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0198	J	0.0892	0.0160	mg/Kg	☼	11/21/23 12:00	11/27/23 16:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.5		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.5		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-2

Date Collected: 11/10/23 10:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-14

Matrix: Solid
Percent Solids: 97.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Acenaphthylene	ND		40.4	15.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Acetophenone	ND		101	25.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Anthracene	**25.5**	**J**	40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Atrazine	ND		333	69.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzaldehyde	ND		333	56.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzo[a]anthracene	**169**		40.4	15.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzo[a]pyrene	**139**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzo[b]fluoranthene	**135**		40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzo[g,h,i]perylene	**161**		40.4	27.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Benzo[k]fluoranthene	**27.8**	**J**	40.4	10.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
1,1'-Biphenyl	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Bis(2-chloroethyl)ether	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
bis (2-chloroisopropyl) ether	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Bis(2-ethylhexyl) phthalate	ND		151	56.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Bromophenyl phenyl ether	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Butyl benzyl phthalate	ND		151	51.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Caprolactam	ND		333	69.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Carbazole	ND		101	27.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Chloroaniline	ND		151	16.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Chloro-3-methylphenol	ND		151	38.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Chloronaphthalene	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Chlorophenol	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Chlorophenyl phenyl ether	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Chrysene	**357**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Dibenz(a,h)anthracene	**70.4**		40.4	15.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Dibenzofuran	ND		101	29.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
3,3'-Dichlorobenzidine	ND		151	95.9	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4-Dichlorophenol	ND		151	27.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Diethyl phthalate	ND		151	43.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4-Dimethylphenol	ND		151	36.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Dimethyl phthalate	ND		151	40.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Di-n-butyl phthalate	ND		151	24.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4,6-Dinitro-2-methylphenol	ND		333	105	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4-Dinitrophenol	ND		333	173	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4-Dinitrotoluene	ND		202	23.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,6-Dinitrotoluene	ND		202	36.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Di-n-octyl phthalate	ND		151	50.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Fluoranthene	**64.9**		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Fluorene	ND		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Hexachlorobenzene	ND		40.4	14.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Hexachlorocyclopentadiene	ND		333	39.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Hexachloroethane	ND		101	32.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Indeno[1,2,3-cd]pyrene	**70.4**		40.4	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Isophorone	ND		101	26.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Methylnaphthalene	**80.5**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Methylphenol	ND		202	41.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-2

Date Collected: 11/10/23 10:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-14

Matrix: Solid
Percent Solids: 97.3

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		404	41.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Naphthalene	**42.2**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Nitroaniline	ND		202	38.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
3-Nitroaniline	ND		202	35.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Nitroaniline	ND		202	26.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Nitrobenzene	ND		101	22.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2-Nitrophenol	ND		101	35.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
4-Nitrophenol	ND		333	90.8	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
N-Nitrosodi-n-propylamine	ND		101	37.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
N-Nitrosodiphenylamine	ND		101	27.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Pentachlorophenol	ND		272	106	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Phenanthrene	**372**		40.4	13.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Phenol	ND		101	38.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
Pyrene	**241**		40.4	16.1	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4,5-Trichlorophenol	ND		151	33.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1
2,4,6-Trichlorophenol	ND		151	29.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*43*		*34 - 120*	*11/21/23 08:50*	*12/01/23 16:22*	*1*
2-Fluorophenol (Surr)	*36*		*20 - 120*	*11/21/23 08:50*	*12/01/23 16:22*	*1*
Nitrobenzene-d5 (Surr)	*42*		*25 - 120*	*11/21/23 08:50*	*12/01/23 16:22*	*1*
Phenol-d5 (Surr)	*40*		*26 - 120*	*11/21/23 08:50*	*12/01/23 16:22*	*1*
Terphenyl-d14 (Surr)	*46*		*46 - 137*	*11/21/23 08:50*	*12/01/23 16:22*	*1*
2,4,6-Tribromophenol (Surr)	*35*		*10 - 120*	*11/21/23 08:50*	*12/01/23 16:22*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**6780**		15.7	4.18	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Antimony	**0.300**	**J**	1.57	0.282	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Arsenic	**5.85**		1.18	0.248	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Barium	**121**		15.7	0.284	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Beryllium	**0.466**		0.392	0.0423	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Cadmium	**0.160**	**J**	0.392	0.0376	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Calcium	**2990**		392	28.6	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Chromium	**11.2**		0.784	0.269	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Cobalt	**5.14**		0.784	0.0580	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Copper	**7.91**		1.96	0.185	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Iron	**10500**		15.7	5.44	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Lead	**25.0**		0.784	0.221	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Magnesium	**1190**		392	12.0	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Manganese	**564**		1.18	0.203	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Nickel	**9.08**		3.14	0.389	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Potassium	**563**		392	28.0	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Selenium	**0.525**	**J**	1.57	0.368	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Silver	ND		0.784	0.0635	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Sodium	ND		392	111	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Thallium	ND		1.57	0.313	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Vanadium	**24.3**		3.92	0.645	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1
Zinc	**36.1**		3.92	1.07	mg/Kg	☼	11/21/23 11:00	11/22/23 13:47	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-2

Date Collected: 11/10/23 10:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-14

Matrix: Solid
Percent Solids: 97.3

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0190	J	0.103	0.0185	mg/Kg	☼	11/21/23 12:00	11/27/23 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.3		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.7		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-3

Date Collected: 11/10/23 10:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-15

Matrix: Solid
Percent Solids: 97.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Acenaphthylene	ND		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Acetophenone	ND		102	25.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Anthracene	**26.5**	**J**	40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Atrazine	ND		336	70.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzaldehyde	ND		336	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzo[a]anthracene	**169**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzo[a]pyrene	**141**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzo[b]fluoranthene	**143**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzo[g,h,i]perylene	**160**		40.7	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Benzo[k]fluoranthene	**19.3**	**J**	40.7	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Bis(2-ethylhexyl) phthalate	ND		153	57.0	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Butyl benzyl phthalate	ND		153	51.9	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Caprolactam	ND		336	70.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Chrysene	**350**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Dibenz(a,h)anthracene	**75.9**		40.7	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Dibenzofuran	ND		102	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
3,3'-Dichlorobenzidine	ND		153	96.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4-Dimethylphenol	ND		153	36.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Dimethyl phthalate	ND		153	40.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Di-n-butyl phthalate	ND		153	24.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,6-Dinitrotoluene	ND		204	36.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Fluoranthene	**67.7**		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Fluorene	ND		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Hexachlorobenzene	ND		40.7	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Indeno[1,2,3-cd]pyrene	**70.7**		40.7	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Methylnaphthalene	**70.5**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Methylphenol	ND		204	41.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-3

Date Collected: 11/10/23 10:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-15

Matrix: Solid
Percent Solids: 97.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		407	41.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Naphthalene	**40.3**	**J**	40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
3-Nitroaniline	ND		204	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2-Nitrophenol	ND		102	35.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
4-Nitrophenol	ND		336	91.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Phenanthrene	**374**		40.7	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
Pyrene	**242**		40.7	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/21/23 08:50	12/01/23 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*44*		*34 - 120*	*11/21/23 08:50*	*12/01/23 16:46*	*1*
2-Fluorophenol (Surr)	*39*		*20 - 120*	*11/21/23 08:50*	*12/01/23 16:46*	*1*
Nitrobenzene-d5 (Surr)	*44*		*25 - 120*	*11/21/23 08:50*	*12/01/23 16:46*	*1*
Phenol-d5 (Surr)	*42*		*26 - 120*	*11/21/23 08:50*	*12/01/23 16:46*	*1*
Terphenyl-d14 (Surr)	*49*		*46 - 137*	*11/21/23 08:50*	*12/01/23 16:46*	*1*
2,4,6-Tribromophenol (Surr)	*34*		*10 - 120*	*11/21/23 08:50*	*12/01/23 16:46*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7050**		17.7	4.71	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Antimony	**0.402**	**J**	1.77	0.317	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Arsenic	**7.29**		1.32	0.279	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Barium	**152**		17.7	0.320	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Beryllium	**0.513**		0.441	0.0477	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Cadmium	**0.170**	**J**	0.441	0.0424	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Calcium	**3200**		441	32.2	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Chromium	**12.0**		0.883	0.303	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Cobalt	**7.68**		0.883	0.0653	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Copper	**8.36**		2.21	0.208	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Iron	**12100**		17.7	6.13	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Lead	**26.0**		0.883	0.249	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Magnesium	**1250**		441	13.5	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Manganese	**968**		6.62	1.14	mg/Kg	☼	11/21/23 11:00	11/27/23 09:30	5
Nickel	**10.4**		3.53	0.438	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Potassium	**542**		441	31.6	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Selenium	**0.687**	**J**	1.77	0.414	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Silver	ND		0.883	0.0715	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Sodium	ND		441	125	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Thallium	ND		1.77	0.352	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Vanadium	**27.7**		4.41	0.726	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1
Zinc	**36.6**		4.41	1.21	mg/Kg	☼	11/21/23 11:00	11/22/23 13:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-3

Date Collected: 11/10/23 10:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-15

Matrix: Solid
Percent Solids: 97.7

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0182	J	0.0945	0.0170	mg/Kg	☼	11/21/23 12:00	11/27/23 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.7		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.3		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-1

Date Collected: 11/10/23 11:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-16

Matrix: Solid
Percent Solids: 96.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Acenaphthylene	ND		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Anthracene	**31.1**	**J**	40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Atrazine	ND		337	70.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzaldehyde	ND		337	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzo[a]anthracene	**208**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzo[a]pyrene	**161**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzo[b]fluoranthene	**163**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzo[g,h,i]perylene	**194**		40.8	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Benzo[k]fluoranthene	**24.5**	**J**	40.8	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
1,1'-Biphenyl	ND		102	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Bis(2-ethylhexyl) phthalate	ND		153	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Butyl benzyl phthalate	ND		153	52.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Caprolactam	ND		337	70.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Chloro-3-methylphenol	ND		153	38.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Chloronaphthalene	ND		102	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Chlorophenyl phenyl ether	ND		102	28.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Chrysene	**404**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Dibenz(a,h)anthracene	**83.4**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Dibenzofuran	ND		102	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
3,3'-Dichlorobenzidine	ND		153	96.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Diethyl phthalate	ND		153	43.9	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Dimethyl phthalate	ND		153	40.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Di-n-butyl phthalate	ND		153	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4,6-Dinitro-2-methylphenol	ND		337	106	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4-Dinitrophenol	ND		337	174	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4-Dinitrotoluene	ND		204	23.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Di-n-octyl phthalate	ND		153	51.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Fluoranthene	**83.9**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Fluorene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Hexachlorobenzene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Hexachlorocyclopentadiene	ND		337	39.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Indeno[1,2,3-cd]pyrene	**79.6**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Methylnaphthalene	**84.8**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-1

Date Collected: 11/10/23 11:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-16

Matrix: Solid
Percent Solids: 96.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		408	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Naphthalene	**42.7**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Nitroaniline	ND		204	38.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
3-Nitroaniline	ND		204	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2-Nitrophenol	ND		102	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
4-Nitrophenol	ND		337	91.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Phenanthrene	**425**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Phenol	ND		102	38.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
Pyrene	**289**		40.8	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4,5-Trichlorophenol	ND		153	33.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1
2,4,6-Trichlorophenol	ND		153	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*48*		*34 - 120*	*11/21/23 08:50*	*12/01/23 17:10*	*1*
2-Fluorophenol (Surr)	*40*		*20 - 120*	*11/21/23 08:50*	*12/01/23 17:10*	*1*
Nitrobenzene-d5 (Surr)	*46*		*25 - 120*	*11/21/23 08:50*	*12/01/23 17:10*	*1*
Phenol-d5 (Surr)	*46*		*26 - 120*	*11/21/23 08:50*	*12/01/23 17:10*	*1*
Terphenyl-d14 (Surr)	*51*		*46 - 137*	*11/21/23 08:50*	*12/01/23 17:10*	*1*
2,4,6-Tribromophenol (Surr)	*42*		*10 - 120*	*11/21/23 08:50*	*12/01/23 17:10*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8380**		20.3	5.41	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Antimony	ND		2.03	0.364	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Arsenic	**5.80**		1.52	0.321	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Barium	**132**		20.3	0.367	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Beryllium	**0.530**		0.507	0.0548	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Cadmium	**0.198**	**J**	0.507	0.0487	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Calcium	**3970**		507	37.0	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Chromium	**13.4**		1.01	0.348	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Cobalt	**5.37**		1.01	0.0751	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Copper	**9.41**		2.54	0.239	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Iron	**11100**		20.3	7.04	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Lead	**25.4**		1.01	0.286	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Magnesium	**1470**		507	15.5	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Manganese	**627**		1.52	0.263	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Nickel	**11.4**		4.06	0.503	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Potassium	**720**		507	36.3	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Selenium	**0.756**	**J**	2.03	0.476	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Silver	ND		1.01	0.0822	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Sodium	ND		507	144	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Thallium	ND		2.03	0.405	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Vanadium	**23.4**		5.07	0.834	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1
Zinc	**42.8**		5.07	1.39	mg/Kg	☼	11/21/23 11:00	11/22/23 13:56	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-1

Date Collected: 11/10/23 11:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-16

Matrix: Solid
Percent Solids: 96.6

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0491	J	0.105	0.0189	mg/Kg	☼	11/21/23 12:00	11/27/23 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.6		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.4		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-2

Date Collected: 11/10/23 11:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-17

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Acenaphthylene	ND		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Acetophenone	ND		101	25.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Anthracene	**34.5**	**J**	40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Atrazine	ND		335	70.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzaldehyde	ND		335	56.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzo[a]anthracene	**216**		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzo[a]pyrene	**180**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzo[b]fluoranthene	**199**		40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzo[g,h,i]perylene	**221**		40.6	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Benzo[k]fluoranthene	**27.4**	**J**	40.6	10.1	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
1,1'-Biphenyl	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Bis(2-chloroethoxy)methane	ND		101	20.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
bis (2-chloroisopropyl) ether	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Bis(2-ethylhexyl) phthalate	ND		152	56.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Bromophenyl phenyl ether	ND		101	32.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Butyl benzyl phthalate	ND		152	51.8	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Caprolactam	ND		335	70.0	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Carbazole	**30.4**	**J**	101	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Chloro-3-methylphenol	ND		152	38.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Chloronaphthalene	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Chlorophenol	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Chlorophenyl phenyl ether	ND		101	28.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Chrysene	**455**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Dibenz(a,h)anthracene	**111**		40.6	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Dibenzofuran	ND		101	29.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
3,3'-Dichlorobenzidine	ND		152	96.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4-Dichlorophenol	ND		152	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Diethyl phthalate	ND		152	43.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4-Dimethylphenol	ND		152	36.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Dimethyl phthalate	ND		152	40.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Di-n-butyl phthalate	ND		152	24.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4,6-Dinitro-2-methylphenol	ND		335	106	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4-Dinitrophenol	ND		335	174	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4-Dinitrotoluene	ND		203	23.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,6-Dinitrotoluene	ND		203	36.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Di-n-octyl phthalate	ND		152	50.7	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Fluoranthene	**105**		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Fluorene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Hexachlorobenzene	ND		40.6	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Hexachlorobutadiene	ND		101	21.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Hexachlorocyclopentadiene	ND		335	39.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Hexachloroethane	ND		101	32.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Indeno[1,2,3-cd]pyrene	**89.6**		40.6	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Isophorone	ND		101	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Methylnaphthalene	**94.8**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Methylphenol	ND		203	41.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-2

Date Collected: 11/10/23 11:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-17

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		406	41.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Naphthalene	**53.7**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Nitroaniline	ND		203	38.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
3-Nitroaniline	ND		203	35.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Nitroaniline	ND		203	26.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2-Nitrophenol	ND		101	35.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
4-Nitrophenol	ND		335	91.3	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
N-Nitrosodi-n-propylamine	ND		101	37.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
N-Nitrosodiphenylamine	ND		101	27.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Pentachlorophenol	ND		274	107	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Phenanthrene	**490**		40.6	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Phenol	ND		101	38.6	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
Pyrene	**321**		40.6	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4,5-Trichlorophenol	ND		152	33.5	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1
2,4,6-Trichlorophenol	ND		152	29.4	ug/Kg	☼	11/21/23 08:50	12/01/23 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*53*		*34 - 120*	*11/21/23 08:50*	*12/01/23 17:34*	*1*
2-Fluorophenol (Surr)	*43*		*20 - 120*	*11/21/23 08:50*	*12/01/23 17:34*	*1*
Nitrobenzene-d5 (Surr)	*49*		*25 - 120*	*11/21/23 08:50*	*12/01/23 17:34*	*1*
Phenol-d5 (Surr)	*50*		*26 - 120*	*11/21/23 08:50*	*12/01/23 17:34*	*1*
Terphenyl-d14 (Surr)	*57*		*46 - 137*	*11/21/23 08:50*	*12/01/23 17:34*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*10 - 120*	*11/21/23 08:50*	*12/01/23 17:34*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9230**		16.6	4.42	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Antimony	ND		1.66	0.297	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Arsenic	**6.17**		1.24	0.262	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Barium	**135**		16.6	0.300	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Beryllium	**0.570**		0.414	0.0447	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Cadmium	**0.210**	**J**	0.414	0.0398	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Calcium	**4250**		414	30.2	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Chromium	**15.0**		0.828	0.284	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Cobalt	**6.44**		0.828	0.0613	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Copper	**10.5**		2.07	0.195	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Iron	**12000**		16.6	5.75	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Lead	**27.4**		0.828	0.234	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Magnesium	**1650**		414	12.7	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Manganese	**621**		1.24	0.215	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Nickel	**13.1**		3.31	0.411	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Potassium	**819**		414	29.6	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Selenium	**0.857**	**J**	1.66	0.388	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Silver	ND		0.828	0.0671	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Sodium	ND		414	117	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Thallium	ND		1.66	0.330	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Vanadium	**25.5**		4.14	0.681	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1
Zinc	**49.3**		4.14	1.13	mg/Kg	☼	11/21/23 11:00	11/22/23 14:01	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-2

Date Collected: 11/10/23 11:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-17

Matrix: Solid
Percent Solids: 97.4

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0386	J	0.101	0.0182	mg/Kg	☼	11/21/23 12:00	11/27/23 16:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.4		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.6		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-3

Date Collected: 11/10/23 11:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-18

Matrix: Solid
Percent Solids: 96.8

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Acenaphthylene	ND		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Anthracene	**23.3**	**J**	40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Atrazine	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzaldehyde	ND		336	57.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzo[a]anthracene	**163**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzo[a]pyrene	**159**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzo[b]fluoranthene	**132**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzo[g,h,i]perylene	**167**		40.8	27.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Benzo[k]fluoranthene	**22.3**	**J**	40.8	10.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Bis(2-ethylhexyl) phthalate	**107**	**J**	153	57.1	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Butyl benzyl phthalate	**81.1**	**J**	153	52.0	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Caprolactam	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Chrysene	**329**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Dibenz(a,h)anthracene	**75.3**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Dibenzofuran	ND		102	29.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
3,3'-Dichlorobenzidine	ND		153	96.8	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Dimethyl phthalate	ND		153	40.8	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Di-n-butyl phthalate	**36.9**	**J**	153	24.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Fluoranthene	**72.2**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Fluorene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Hexachlorobenzene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Indeno[1,2,3-cd]pyrene	**68.3**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Methylnaphthalene	**68.3**		40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-3

Date Collected: 11/10/23 11:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-18

Matrix: Solid
Percent Solids: 96.8

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		408	41.8	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Naphthalene	**38.6**	**J**	40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
3-Nitroaniline	ND		204	35.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2-Nitrophenol	ND		102	35.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
4-Nitrophenol	ND		336	91.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Phenanthrene	**342**		40.8	13.2	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
Pyrene	**237**		40.8	16.3	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/21/23 08:50	12/06/23 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*47*		*34 - 120*	*11/21/23 08:50*	*12/06/23 16:38*	*1*
2-Fluorophenol (Surr)	*44*		*20 - 120*	*11/21/23 08:50*	*12/06/23 16:38*	*1*
Nitrobenzene-d5 (Surr)	*45*		*25 - 120*	*11/21/23 08:50*	*12/06/23 16:38*	*1*
Phenol-d5 (Surr)	*51*		*26 - 120*	*11/21/23 08:50*	*12/06/23 16:38*	*1*
Terphenyl-d14 (Surr)	*55*		*46 - 137*	*11/21/23 08:50*	*12/06/23 16:38*	*1*
2,4,6-Tribromophenol (Surr)	*43*		*10 - 120*	*11/21/23 08:50*	*12/06/23 16:38*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**10600**		16.4	4.37	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Antimony	**0.353**	**J**	1.64	0.294	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Arsenic	**7.23**		1.23	0.259	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Barium	**146**		16.4	0.297	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Beryllium	**0.605**		0.410	0.0443	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Cadmium	**0.200**	**J**	0.410	0.0393	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Calcium	**5330**		410	29.9	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Chromium	**16.6**		0.819	0.281	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Cobalt	**8.54**		0.819	0.0606	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Copper	**12.1**		2.05	0.193	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Iron	**14100**		16.4	5.69	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Lead	**25.1**		0.819	0.231	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Magnesium	**1980**		410	12.5	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Manganese	**715**		1.23	0.212	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Nickel	**15.6**		3.28	0.406	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Potassium	**902**		410	29.3	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Selenium	**0.671**	**J**	1.64	0.384	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Silver	ND		0.819	0.0664	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Sodium	ND		410	116	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Thallium	ND		1.64	0.327	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Vanadium	**28.4**		4.10	0.674	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1
Zinc	**51.8**		4.10	1.12	mg/Kg	☼	11/21/23 11:00	11/22/23 14:05	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-3

Date Collected: 11/10/23 11:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-18

Matrix: Solid
Percent Solids: 96.8

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0370	J	0.102	0.0183	mg/Kg	☼	11/21/23 12:00	11/27/23 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.8		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.2		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-1

Date Collected: 11/10/23 12:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-19

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Acenaphthylene	ND		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Acetophenone	ND		101	25.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Anthracene	**42.1**		40.5	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Atrazine	ND		334	69.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzaldehyde	ND		334	56.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzo[a]anthracene	**255**		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzo[a]pyrene	**222**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzo[b]fluoranthene	**249**		40.5	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzo[g,h,i]perylene	**256**		40.5	27.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Benzo[k]fluoranthene	**46.2**		40.5	10.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
1,1'-Biphenyl	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
bis (2-chloroisopropyl) ether	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Bis(2-ethylhexyl) phthalate	ND		152	56.7	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Bromophenyl phenyl ether	ND		101	32.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Butyl benzyl phthalate	ND		152	51.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Caprolactam	ND		334	69.8	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Carbazole	**31.3**	**J**	101	27.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Chloro-3-methylphenol	ND		152	38.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Chloronaphthalene	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Chlorophenol	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Chlorophenyl phenyl ether	ND		101	28.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Chrysene	**485**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Dibenz(a,h)anthracene	**107**		40.5	15.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Dibenzofuran	ND		101	29.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
3,3'-Dichlorobenzidine	ND		152	96.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4-Dichlorophenol	ND		152	27.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Diethyl phthalate	ND		152	43.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4-Dimethylphenol	ND		152	36.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Dimethyl phthalate	ND		152	40.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Di-n-butyl phthalate	ND		152	24.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4,6-Dinitro-2-methylphenol	ND		334	105	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4-Dinitrophenol	ND		334	173	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4-Dinitrotoluene	ND		202	23.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,6-Dinitrotoluene	ND		202	36.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Di-n-octyl phthalate	ND		152	50.6	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Fluoranthene	**161**		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Fluorene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Hexachlorobenzene	ND		40.5	14.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Hexachlorocyclopentadiene	ND		334	39.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Hexachloroethane	ND		101	32.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Indeno[1,2,3-cd]pyrene	**113**		40.5	12.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Isophorone	ND		101	26.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Methylnaphthalene	**96.6**		40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Methylphenol	ND		202	41.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1

Client Sample ID: DU-19-1

Date Collected: 11/10/23 12:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-19

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		405	41.5	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Naphthalene	**54.4**		40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Nitroaniline	ND		202	38.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
3-Nitroaniline	ND		202	35.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Nitroaniline	ND		202	26.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2-Nitrophenol	ND		101	35.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
4-Nitrophenol	ND		334	91.1	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
N-Nitrosodi-n-propylamine	ND		101	37.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
N-Nitrosodiphenylamine	ND		101	27.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Pentachlorophenol	ND		273	106	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Phenanthrene	**484**		40.5	13.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Phenol	ND		101	38.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
Pyrene	**365**		40.5	16.2	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4,5-Trichlorophenol	ND		152	33.4	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1
2,4,6-Trichlorophenol	ND		152	29.3	ug/Kg	☼	11/21/23 08:50	12/01/23 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*47*		*34 - 120*	*11/21/23 08:50*	*12/01/23 19:34*	*1*
2-Fluorophenol (Surr)	*42*		*20 - 120*	*11/21/23 08:50*	*12/01/23 19:34*	*1*
Nitrobenzene-d5 (Surr)	*48*		*25 - 120*	*11/21/23 08:50*	*12/01/23 19:34*	*1*
Phenol-d5 (Surr)	*46*		*26 - 120*	*11/21/23 08:50*	*12/01/23 19:34*	*1*
Terphenyl-d14 (Surr)	*54*		*46 - 137*	*11/21/23 08:50*	*12/01/23 19:34*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*10 - 120*	*11/21/23 08:50*	*12/01/23 19:34*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9810**		14.8	3.95	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Antimony	ND		1.48	0.266	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Arsenic	**6.20**		1.11	0.234	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Barium	**106**		14.8	0.268	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Beryllium	**0.533**		0.370	0.0400	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Cadmium	**0.310**	**J**	0.370	0.0355	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Calcium	**28400**		370	27.0	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Chromium	**17.4**		0.740	0.254	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Cobalt	**8.47**		0.740	0.0548	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Copper	**12.4**		1.85	0.175	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Iron	**13200**		14.8	5.14	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Lead	**39.9**		0.740	0.209	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Magnesium	**3190**		370	11.3	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Manganese	**432**		1.11	0.192	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Nickel	**15.4**		2.96	0.367	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Potassium	**815**		370	26.5	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Selenium	ND		1.48	0.347	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Silver	ND		0.740	0.0599	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Sodium	ND		370	105	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Thallium	ND		1.48	0.295	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Vanadium	**24.7**		3.70	0.608	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1
Zinc	**60.0**		3.70	1.01	mg/Kg	☼	11/21/23 11:00	11/22/23 14:18	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-1

Date Collected: 11/10/23 12:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-19

Matrix: Solid
Percent Solids: 97.2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0305	J	0.0995	0.0179	mg/Kg	☼	11/21/23 12:00	11/27/23 16:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.2		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.8		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-2

Date Collected: 11/10/23 13:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-20

Matrix: Solid
Percent Solids: 96.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Acenaphthylene	ND		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Anthracene	**38.3**	**J**	40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Atrazine	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzaldehyde	ND		336	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzo[a]anthracene	**276**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzo[a]pyrene	**212**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzo[b]fluoranthene	**225**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzo[g,h,i]perylene	**299**		40.8	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Benzo[k]fluoranthene	**50.5**		40.8	10.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Bis(2-ethylhexyl) phthalate	ND		153	57.1	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Butyl benzyl phthalate	ND		153	52.0	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Caprolactam	ND		336	70.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Carbazole	**34.1**	**J**	102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Chrysene	**539**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Dibenz(a,h)anthracene	**124**		40.8	15.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Dibenzofuran	ND		102	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
3,3'-Dichlorobenzidine	ND		153	96.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Dimethyl phthalate	ND		153	40.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Di-n-butyl phthalate	ND		153	24.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Di-n-octyl phthalate	ND		153	51.0	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Fluoranthene	**121**		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Fluorene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Hexachlorobenzene	ND		40.8	14.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Hexachlorocyclopentadiene	ND		336	39.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Indeno[1,2,3-cd]pyrene	**111**		40.8	12.2	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Methylnaphthalene	**108**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-2

Date Collected: 11/10/23 13:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-20

Matrix: Solid
Percent Solids: 96.7

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		408	41.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Naphthalene	**59.8**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
3-Nitroaniline	ND		204	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2-Nitrophenol	ND		102	35.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
4-Nitrophenol	ND		336	91.8	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Phenanthrene	**537**		40.8	13.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
Pyrene	**391**		40.8	16.3	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1
2,4,6-Trichlorophenol	ND		153	29.6	ug/Kg	☼	11/21/23 08:50	12/01/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*49*		*34 - 120*	*11/21/23 08:50*	*12/01/23 14:22*	*1*
2-Fluorophenol (Surr)	*45*		*20 - 120*	*11/21/23 08:50*	*12/01/23 14:22*	*1*
Nitrobenzene-d5 (Surr)	*50*		*25 - 120*	*11/21/23 08:50*	*12/01/23 14:22*	*1*
Phenol-d5 (Surr)	*49*		*26 - 120*	*11/21/23 08:50*	*12/01/23 14:22*	*1*
Terphenyl-d14 (Surr)	*55*		*46 - 137*	*11/21/23 08:50*	*12/01/23 14:22*	*1*
2,4,6-Tribromophenol (Surr)	*38*		*10 - 120*	*11/21/23 08:50*	*12/01/23 14:22*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9580**		15.4	4.11	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Antimony	**0.469**	**J**	1.54	0.277	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Arsenic	**5.85**		1.16	0.244	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Barium	**104**		15.4	0.279	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Beryllium	**0.575**		0.386	0.0417	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Cadmium	**0.258**	**J**	0.386	0.0370	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Calcium	**8250**		386	28.1	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Chromium	**16.3**		0.771	0.265	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Cobalt	**7.13**		0.771	0.0571	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Copper	**11.2**		1.93	0.182	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Iron	**11300**		15.4	5.36	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Lead	**33.9**		0.771	0.218	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Magnesium	**1710**		386	11.8	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Manganese	**346**		1.16	0.200	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Nickel	**14.1**		3.09	0.383	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Potassium	**752**		386	27.6	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Selenium	**0.713**	**J**	1.54	0.362	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Silver	ND		0.771	0.0625	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Sodium	ND		386	109	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Thallium	ND		1.54	0.308	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Vanadium	**23.8**		3.86	0.634	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1
Zinc	**51.9**		3.86	1.05	mg/Kg	☼	11/21/23 11:00	11/22/23 14:22	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-2

Date Collected: 11/10/23 13:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-20

Matrix: Solid
Percent Solids: 96.7

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0328	J	0.0940	0.0169	mg/Kg	☼	11/21/23 12:00	11/27/23 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.7		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.3		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-3

Date Collected: 11/10/23 13:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-21

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Acenaphthylene	ND		39.9	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Acetophenone	ND		99.8	24.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Anthracene	**35.6**	**J**	39.9	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Atrazine	ND		329	68.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzaldehyde	ND		329	55.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzo[a]anthracene	**248**		39.9	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzo[a]pyrene	**184**		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzo[b]fluoranthene	**188**		39.9	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzo[g,h,i]perylene	**244**		39.9	26.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Benzo[k]fluoranthene	**44.8**		39.9	9.98	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
1,1'-Biphenyl	ND		99.8	27.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Bis(2-chloroethoxy)methane	ND		99.8	20.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Bis(2-chloroethyl)ether	ND		99.8	21.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
bis (2-chloroisopropyl) ether	ND		99.8	25.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Bis(2-ethylhexyl) phthalate	ND		150	55.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Bromophenyl phenyl ether	ND		99.8	31.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Butyl benzyl phthalate	ND		150	50.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Caprolactam	ND		329	68.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Carbazole	**29.7**	**J**	99.8	26.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Chloroaniline	ND		150	16.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Chloro-3-methylphenol	ND		150	37.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Chloronaphthalene	ND		99.8	27.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Chlorophenol	ND		99.8	25.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Chlorophenyl phenyl ether	ND		99.8	27.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Chrysene	**492**		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Dibenz(a,h)anthracene	**94.5**		39.9	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Dibenzofuran	ND		99.8	28.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
3,3'-Dichlorobenzidine	ND		150	94.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4-Dichlorophenol	ND		150	26.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Diethyl phthalate	ND		150	42.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4-Dimethylphenol	ND		150	35.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Dimethyl phthalate	ND		150	39.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Di-n-butyl phthalate	ND		150	23.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4,6-Dinitro-2-methylphenol	ND		329	104	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4-Dinitrophenol	ND		329	171	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4-Dinitrotoluene	ND		200	22.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,6-Dinitrotoluene	ND		200	35.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Di-n-octyl phthalate	ND		150	49.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Fluoranthene	**130**		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Fluorene	ND		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Hexachlorobenzene	ND		39.9	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Hexachlorobutadiene	ND		99.8	20.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Hexachlorocyclopentadiene	ND		329	38.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Hexachloroethane	ND		99.8	31.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Indeno[1,2,3-cd]pyrene	**87.7**		39.9	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Isophorone	ND		99.8	25.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Methylnaphthalene	**112**		39.9	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Methylphenol	ND		200	40.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-3

Date Collected: 11/10/23 13:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-21

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		399	40.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Naphthalene	**58.2**		39.9	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Nitroaniline	ND		200	37.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
3-Nitroaniline	ND		200	34.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Nitroaniline	ND		200	25.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Nitrobenzene	ND		99.8	21.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2-Nitrophenol	ND		99.8	34.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
4-Nitrophenol	ND		329	89.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
N-Nitrosodi-n-propylamine	ND		99.8	36.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
N-Nitrosodiphenylamine	ND		99.8	26.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Pentachlorophenol	ND		269	105	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Phenanthrene	**511**		39.9	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Phenol	ND		99.8	37.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
Pyrene	**366**		39.9	16.0	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4,5-Trichlorophenol	ND		150	32.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1
2,4,6-Trichlorophenol	ND		150	28.9	ug/Kg	☼	11/21/23 09:59	11/27/23 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*56*		*34 - 120*	*11/21/23 09:59*	*11/27/23 16:13*	*1*
2-Fluorophenol (Surr)	*50*		*20 - 120*	*11/21/23 09:59*	*11/27/23 16:13*	*1*
Nitrobenzene-d5 (Surr)	*54*		*25 - 120*	*11/21/23 09:59*	*11/27/23 16:13*	*1*
Phenol-d5 (Surr)	*52*		*26 - 120*	*11/21/23 09:59*	*11/27/23 16:13*	*1*
Terphenyl-d14 (Surr)	*59*		*46 - 137*	*11/21/23 09:59*	*11/27/23 16:13*	*1*
2,4,6-Tribromophenol (Surr)	*47*		*10 - 120*	*11/21/23 09:59*	*11/27/23 16:13*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8770**	**B**	17.9	4.77	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Antimony	**0.696**	**J F1**	1.79	0.321	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Arsenic	**6.36**		1.34	0.283	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Barium	**108**		17.9	0.324	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Beryllium	**0.563**		0.448	0.0483	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Cadmium	**0.279**	**J**	0.448	0.0430	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Calcium	**17000**	**F1**	448	32.6	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Chromium	**16.2**		0.895	0.307	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Cobalt	**6.65**		0.895	0.0662	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Copper	**11.7**		2.24	0.211	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Iron	**11900**		17.9	6.22	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Lead	**37.9**		0.895	0.252	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Magnesium	**2610**		448	13.7	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Manganese	**394**		1.34	0.232	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Nickel	**13.5**		3.58	0.444	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Potassium	**747**		448	32.0	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Selenium	**0.775**	**J**	1.79	0.420	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Silver	ND		0.895	0.0725	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Sodium	ND		448	127	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Thallium	ND		1.79	0.357	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Vanadium	**23.7**		4.48	0.736	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1
Zinc	**54.7**		4.48	1.22	mg/Kg	☼	11/21/23 11:00	11/22/23 10:59	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-3

Date Collected: 11/10/23 13:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-21

Matrix: Solid
Percent Solids: 97.1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0349	J	0.0950	0.0171	mg/Kg	☼	11/21/23 12:00	11/27/23 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.1		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	2.9		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-1

Date Collected: 11/09/23 14:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-22

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Acenaphthylene	ND		40.5	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Acetophenone	ND		101	25.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Anthracene	**12.2**	**J**	40.5	12.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Atrazine	ND		334	69.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzaldehyde	ND		334	56.7	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzo[a]anthracene	**86.7**		40.5	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzo[a]pyrene	**72.3**		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzo[b]fluoranthene	**67.0**		40.5	12.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzo[g,h,i]perylene	**81.2**		40.5	27.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Benzo[k]fluoranthene	**13.3**	**J**	40.5	10.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
1,1'-Biphenyl	ND		101	28.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
bis (2-chloroisopropyl) ether	ND		101	26.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Bis(2-ethylhexyl) phthalate	ND		152	56.7	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Bromophenyl phenyl ether	ND		101	32.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Butyl benzyl phthalate	ND		152	51.6	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Caprolactam	ND		334	69.8	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Carbazole	ND		101	27.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Chloro-3-methylphenol	ND		152	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Chloronaphthalene	ND		101	28.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Chlorophenol	ND		101	26.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Chlorophenyl phenyl ether	ND		101	28.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Chrysene	**172**		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Dibenz(a,h)anthracene	**31.8**	**J**	40.5	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Dibenzofuran	ND		101	29.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
3,3'-Dichlorobenzidine	ND		152	96.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4-Dichlorophenol	ND		152	27.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Diethyl phthalate	ND		152	43.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4-Dimethylphenol	ND		152	36.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Dimethyl phthalate	ND		152	40.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Di-n-butyl phthalate	ND		152	24.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4,6-Dinitro-2-methylphenol	ND		334	105	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4-Dinitrophenol	ND		334	173	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4-Dinitrotoluene	ND		202	23.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,6-Dinitrotoluene	ND		202	36.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Di-n-octyl phthalate	ND		152	50.6	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Fluoranthene	**42.2**		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Fluorene	ND		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Hexachlorobenzene	ND		40.5	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Hexachlorocyclopentadiene	ND		334	39.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Hexachloroethane	ND		101	32.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Indeno[1,2,3-cd]pyrene	**42.3**		40.5	12.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Isophorone	ND		101	26.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Methylnaphthalene	**39.5**	**J**	40.5	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Methylphenol	ND		202	41.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-1

Date Collected: 11/09/23 14:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-22

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		405	41.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Naphthalene	**22.7**	**J**	40.5	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Nitroaniline	ND		202	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
3-Nitroaniline	ND		202	35.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Nitroaniline	ND		202	26.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2-Nitrophenol	ND		101	35.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
4-Nitrophenol	ND		334	91.1	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
N-Nitrosodi-n-propylamine	ND		101	37.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
N-Nitrosodiphenylamine	ND		101	27.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Pentachlorophenol	ND		273	106	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Phenanthrene	**184**		40.5	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Phenol	ND		101	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
Pyrene	**127**		40.5	16.2	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4,5-Trichlorophenol	ND		152	33.4	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1
2,4,6-Trichlorophenol	ND		152	29.3	ug/Kg	☼	11/21/23 09:59	11/27/23 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*60*		*34 - 120*	*11/21/23 09:59*	*11/27/23 16:37*	*1*
2-Fluorophenol (Surr)	*56*		*20 - 120*	*11/21/23 09:59*	*11/27/23 16:37*	*1*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*	*11/21/23 09:59*	*11/27/23 16:37*	*1*
Phenol-d5 (Surr)	*59*		*26 - 120*	*11/21/23 09:59*	*11/27/23 16:37*	*1*
Terphenyl-d14 (Surr)	*65*		*46 - 137*	*11/21/23 09:59*	*11/27/23 16:37*	*1*
2,4,6-Tribromophenol (Surr)	*49*		*10 - 120*	*11/21/23 09:59*	*11/27/23 16:37*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**10500**	**B**	14.9	3.96	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Antimony	**0.323**	**J**	1.49	0.267	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Arsenic	**7.40**		1.11	0.235	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Barium	**124**		14.9	0.269	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Beryllium	**0.608**		0.371	0.0401	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Cadmium	**0.162**	**J**	0.371	0.0356	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Calcium	**4210**		371	27.1	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Chromium	**17.7**		0.743	0.255	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Cobalt	**8.57**		0.743	0.0549	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Copper	**12.5**		1.86	0.175	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Iron	**15500**		14.9	5.16	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Lead	**15.7**		0.743	0.209	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Magnesium	**2190**		371	11.4	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Manganese	**330**		1.11	0.192	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Nickel	**17.5**		2.97	0.368	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Potassium	**863**		371	26.6	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Selenium	**0.698**	**J**	1.49	0.348	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Silver	ND		0.743	0.0601	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Sodium	ND		371	105	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Thallium	ND		1.49	0.296	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Vanadium	**27.4**		3.71	0.610	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1
Zinc	**50.0**		3.71	1.02	mg/Kg	☼	11/21/23 11:00	11/22/23 11:20	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-1

Date Collected: 11/09/23 14:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-22

Matrix: Solid
Percent Solids: 96.9

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0325	J	0.0924	0.0166	mg/Kg	☼	11/21/23 12:00	11/27/23 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.9		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.1		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-2

Date Collected: 11/09/23 14:20
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-23

Matrix: Solid
Percent Solids: 96.8

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Acenaphthylene	ND		40.7	15.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Anthracene	**16.2**	**J**	40.7	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Atrazine	ND		336	70.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzaldehyde	ND		336	57.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzo[a]anthracene	**94.9**		40.7	15.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzo[a]pyrene	**87.4**		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzo[b]fluoranthene	**72.7**		40.7	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzo[g,h,i]perylene	**95.0**		40.7	27.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Benzo[k]fluoranthene	**21.2**	**J**	40.7	10.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
bis (2-chloroisopropyl) ether	ND		102	26.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Bis(2-ethylhexyl) phthalate	ND		153	57.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Bromophenyl phenyl ether	ND		102	32.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Butyl benzyl phthalate	ND		153	51.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Caprolactam	ND		336	70.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Chloro-3-methylphenol	ND		153	38.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Chlorophenol	ND		102	26.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Chrysene	**197**		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Dibenz(a,h)anthracene	**41.4**		40.7	15.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Dibenzofuran	ND		102	29.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
3,3'-Dichlorobenzidine	ND		153	96.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Diethyl phthalate	ND		153	43.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4-Dimethylphenol	ND		153	36.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Dimethyl phthalate	ND		153	40.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Di-n-butyl phthalate	ND		153	24.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4-Dinitrotoluene	ND		204	23.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,6-Dinitrotoluene	ND		204	36.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Fluoranthene	**45.4**		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Fluorene	ND		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Hexachlorobenzene	ND		40.7	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Hexachloroethane	ND		102	32.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Indeno[1,2,3-cd]pyrene	**43.9**		40.7	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Isophorone	ND		102	26.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Methylnaphthalene	**40.4**	**J**	40.7	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Methylphenol	ND		204	41.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1

Client Sample ID: DU-20-2

Date Collected: 11/09/23 14:20
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-23

Matrix: Solid
Percent Solids: 96.8

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		407	41.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Naphthalene	**21.3**	**J**	40.7	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Nitroaniline	ND		204	38.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
3-Nitroaniline	ND		204	35.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Nitroaniline	ND		204	26.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2-Nitrophenol	ND		102	35.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
4-Nitrophenol	ND		336	91.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
N-Nitrosodi-n-propylamine	ND		102	37.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Phenanthrene	**204**		40.7	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Phenol	ND		102	38.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
Pyrene	**140**		40.7	16.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*44*		*34 - 120*	*11/21/23 09:59*	*11/27/23 17:00*	*1*
2-Fluorophenol (Surr)	*42*		*20 - 120*	*11/21/23 09:59*	*11/27/23 17:00*	*1*
Nitrobenzene-d5 (Surr)	*45*		*25 - 120*	*11/21/23 09:59*	*11/27/23 17:00*	*1*
Phenol-d5 (Surr)	*44*		*26 - 120*	*11/21/23 09:59*	*11/27/23 17:00*	*1*
Terphenyl-d14 (Surr)	*52*		*46 - 137*	*11/21/23 09:59*	*11/27/23 17:00*	*1*
2,4,6-Tribromophenol (Surr)	*41*		*10 - 120*	*11/21/23 09:59*	*11/27/23 17:00*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**10400**	**B**	19.7	5.25	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Antimony	**0.417**	**J**	1.97	0.353	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Arsenic	**7.14**		1.48	0.311	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Barium	**118**		19.7	0.356	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Beryllium	**0.651**		0.492	0.0531	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Cadmium	**0.172**	**J**	0.492	0.0472	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Calcium	**4840**		492	35.9	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Chromium	**18.4**		0.984	0.338	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Cobalt	**8.18**		0.984	0.0728	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Copper	**12.2**		2.46	0.232	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Iron	**15600**		19.7	6.83	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Lead	**17.3**		0.984	0.278	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Magnesium	**2080**		492	15.0	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Manganese	**317**		1.48	0.255	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Nickel	**17.7**		3.94	0.488	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Potassium	**880**		492	35.2	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Selenium	**0.694**	**J**	1.97	0.462	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Silver	ND		0.984	0.0797	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Sodium	ND		492	140	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Thallium	ND		1.97	0.393	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Vanadium	**27.3**		4.92	0.809	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1
Zinc	**45.5**		4.92	1.35	mg/Kg	☼	11/21/23 11:00	11/22/23 11:25	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-2

Date Collected: 11/09/23 14:20
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-23

Matrix: Solid
Percent Solids: 96.8

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0364	J	0.111	0.0199	mg/Kg	☼	11/21/23 12:00	11/27/23 14:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.8		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.2		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-3

Date Collected: 11/09/23 14:30
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-24

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Acenaphthylene	ND		40.1	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Acetophenone	ND		100	25.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Anthracene	**35.9**	**J**	40.1	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Atrazine	ND		331	69.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzaldehyde	ND		331	56.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzo[a]anthracene	**203**		40.1	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzo[a]pyrene	**167**		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzo[b]fluoranthene	**163**		40.1	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzo[g,h,i]perylene	**200**		40.1	27.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Benzo[k]fluoranthene	**29.9**	**J**	40.1	10.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
1,1'-Biphenyl	ND		100	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
bis (2-chloroisopropyl) ether	ND		100	26.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Bis(2-ethylhexyl) phthalate	ND		150	56.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Bromophenyl phenyl ether	ND		100	32.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Butyl benzyl phthalate	ND		150	51.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Caprolactam	ND		331	69.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Carbazole	ND		100	27.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Chloroaniline	ND		150	16.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Chloro-3-methylphenol	ND		150	38.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Chloronaphthalene	ND		100	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Chlorophenol	ND		100	26.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Chlorophenyl phenyl ether	ND		100	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Chrysene	**428**		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Dibenz(a,h)anthracene	**90.7**		40.1	15.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Dibenzofuran	ND		100	29.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
3,3'-Dichlorobenzidine	ND		150	95.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4-Dichlorophenol	ND		150	27.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Diethyl phthalate	ND		150	43.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4-Dimethylphenol	ND		150	36.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Dimethyl phthalate	ND		150	40.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4,6-Dinitro-2-methylphenol	ND		331	104	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4-Dinitrophenol	ND		331	171	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,6-Dinitrotoluene	ND		200	36.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Di-n-octyl phthalate	ND		150	50.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Fluoranthene	**91.2**		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Fluorene	ND		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Hexachlorobenzene	ND		40.1	14.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Hexachlorocyclopentadiene	ND		331	39.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Hexachloroethane	ND		100	32.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Indeno[1,2,3-cd]pyrene	**87.4**		40.1	12.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Isophorone	ND		100	26.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Methylnaphthalene	**88.1**		40.1	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Methylphenol	ND		200	41.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-3

Date Collected: 11/09/23 14:30
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-24

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		401	41.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Naphthalene	**49.3**		40.1	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Nitroaniline	ND		200	38.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
3-Nitroaniline	ND		200	35.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Nitroaniline	ND		200	26.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Nitrobenzene	ND		100	22.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2-Nitrophenol	ND		100	35.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
4-Nitrophenol	ND		331	90.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
N-Nitrosodi-n-propylamine	ND		100	37.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
N-Nitrosodiphenylamine	ND		100	27.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Pentachlorophenol	ND		271	105	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Phenanthrene	**464**		40.1	13.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Phenol	ND		100	38.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
Pyrene	**302**		40.1	16.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4,5-Trichlorophenol	ND		150	33.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1
2,4,6-Trichlorophenol	ND		150	29.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*48*		*34 - 120*	*11/21/23 09:59*	*11/27/23 17:24*	*1*
2-Fluorophenol (Surr)	*44*		*20 - 120*	*11/21/23 09:59*	*11/27/23 17:24*	*1*
Nitrobenzene-d5 (Surr)	*49*		*25 - 120*	*11/21/23 09:59*	*11/27/23 17:24*	*1*
Phenol-d5 (Surr)	*48*		*26 - 120*	*11/21/23 09:59*	*11/27/23 17:24*	*1*
Terphenyl-d14 (Surr)	*57*		*46 - 137*	*11/21/23 09:59*	*11/27/23 17:24*	*1*
2,4,6-Tribromophenol (Surr)	*18*		*10 - 120*	*11/21/23 09:59*	*11/27/23 17:24*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9840**	**B**	16.8	4.47	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Antimony	ND		1.68	0.301	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Arsenic	**6.80**		1.26	0.265	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Barium	**111**		16.8	0.304	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Beryllium	**0.627**		0.419	0.0453	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Cadmium	**0.207**	**J**	0.419	0.0403	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Calcium	**5440**		419	30.6	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Chromium	**17.7**		0.839	0.288	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Cobalt	**7.87**		0.839	0.0621	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Copper	**10.9**		2.10	0.198	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Iron	**14700**		16.8	5.82	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Lead	**21.5**		0.839	0.236	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Magnesium	**1810**		419	12.8	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Manganese	**336**		1.26	0.217	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Nickel	**17.0**		3.35	0.416	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Potassium	**779**		419	30.0	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Selenium	**0.589**	**J**	1.68	0.393	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Silver	ND		0.839	0.0679	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Sodium	ND		419	119	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Thallium	ND		1.68	0.335	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Vanadium	**26.6**		4.19	0.689	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1
Zinc	**44.2**		4.19	1.15	mg/Kg	☼	11/21/23 11:00	11/22/23 11:29	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-3

Date Collected: 11/09/23 14:30
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-24

Matrix: Solid
Percent Solids: 97.0

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0320	J	0.101	0.0183	mg/Kg	☼	11/21/23 12:00	11/27/23 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-1

Date Collected: 11/10/23 14:40
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-25

Matrix: Solid
Percent Solids: 95.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Acenaphthylene	ND		41.6	15.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Acetophenone	ND		104	26.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Anthracene	**16.9**	**J**	41.6	12.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Atrazine	ND		343	71.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzaldehyde	ND		343	58.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzo[a]anthracene	**108**		41.6	15.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzo[a]pyrene	**111**		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzo[b]fluoranthene	**117**		41.6	12.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzo[g,h,i]perylene	**121**		41.6	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Benzo[k]fluoranthene	**23.8**	**J**	41.6	10.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
1,1'-Biphenyl	ND		104	29.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Bis(2-chloroethoxy)methane	ND		104	20.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Bis(2-chloroethyl)ether	ND		104	22.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
bis (2-chloroisopropyl) ether	ND		104	27.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Bis(2-ethylhexyl) phthalate	ND		156	58.2	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Bromophenyl phenyl ether	ND		104	33.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Butyl benzyl phthalate	ND		156	53.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Caprolactam	ND		343	71.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Carbazole	ND		104	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Chloroaniline	ND		156	16.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Chloro-3-methylphenol	ND		156	39.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Chloronaphthalene	ND		104	29.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Chlorophenol	ND		104	27.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Chlorophenyl phenyl ether	ND		104	29.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Chrysene	**205**		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Dibenz(a,h)anthracene	**39.2**	**J**	41.6	15.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Dibenzofuran	ND		104	30.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
3,3'-Dichlorobenzidine	ND		156	98.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4-Dichlorophenol	ND		156	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Diethyl phthalate	ND		156	44.7	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4-Dimethylphenol	ND		156	37.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Dimethyl phthalate	ND		156	41.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Di-n-butyl phthalate	ND		156	24.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4,6-Dinitro-2-methylphenol	ND		343	108	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4-Dinitrophenol	ND		343	178	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4-Dinitrotoluene	ND		208	23.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,6-Dinitrotoluene	ND		208	37.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Di-n-octyl phthalate	ND		156	52.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Fluoranthene	**99.2**		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Fluorene	ND		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Hexachlorobenzene	ND		41.6	14.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Hexachlorobutadiene	ND		104	21.8	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Hexachlorocyclopentadiene	ND		343	40.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Hexachloroethane	ND		104	33.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Indeno[1,2,3-cd]pyrene	**58.3**		41.6	12.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Isophorone	ND		104	27.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Methylnaphthalene	**40.8**	**J**	41.6	13.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Methylphenol	ND		208	42.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-1

Date Collected: 11/10/23 14:40
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-25

Matrix: Solid
Percent Solids: 95.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		416	42.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Naphthalene	**20.4**	**J**	41.6	13.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Nitroaniline	ND		208	39.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
3-Nitroaniline	ND		208	36.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Nitroaniline	ND		208	27.0	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Nitrobenzene	ND		104	22.9	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2-Nitrophenol	ND		104	36.4	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
4-Nitrophenol	ND		343	93.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
N-Nitrosodi-n-propylamine	ND		104	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
N-Nitrosodiphenylamine	ND		104	28.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Pentachlorophenol	ND		281	109	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Phenanthrene	**201**		41.6	13.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Phenol	ND		104	39.5	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
Pyrene	**167**		41.6	16.6	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4,5-Trichlorophenol	ND		156	34.3	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1
2,4,6-Trichlorophenol	ND		156	30.1	ug/Kg	☼	11/21/23 09:59	11/27/23 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*62*		*34 - 120*	*11/21/23 09:59*	*11/27/23 17:48*	*1*
2-Fluorophenol (Surr)	*55*		*20 - 120*	*11/21/23 09:59*	*11/27/23 17:48*	*1*
Nitrobenzene-d5 (Surr)	*61*		*25 - 120*	*11/21/23 09:59*	*11/27/23 17:48*	*1*
Phenol-d5 (Surr)	*61*		*26 - 120*	*11/21/23 09:59*	*11/27/23 17:48*	*1*
Terphenyl-d14 (Surr)	*67*		*46 - 137*	*11/21/23 09:59*	*11/27/23 17:48*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*10 - 120*	*11/21/23 09:59*	*11/27/23 17:48*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11100**	**B**	16.6	4.43	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Antimony	ND		1.66	0.298	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Arsenic	**6.14**		1.24	0.262	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Barium	**119**		16.6	0.300	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Beryllium	**0.736**		0.415	0.0448	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Cadmium	**0.252**	**J**	0.415	0.0398	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Calcium	**7860**		415	30.3	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Chromium	**20.5**		0.830	0.285	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Cobalt	**6.19**		0.830	0.0614	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Copper	**13.6**		2.07	0.196	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Iron	**12500**		16.6	5.76	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Lead	**18.0**		0.830	0.234	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Magnesium	**2040**		415	12.7	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Manganese	**242**		1.24	0.215	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Nickel	**15.1**		3.32	0.412	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Potassium	**731**		415	29.7	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Selenium	**0.736**	**J**	1.66	0.389	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Silver	ND		0.830	0.0672	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Sodium	ND		415	118	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Thallium	ND		1.66	0.331	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Vanadium	**26.1**		4.15	0.682	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1
Zinc	**54.6**		4.15	1.13	mg/Kg	☼	11/21/23 11:00	11/22/23 11:42	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-1

Date Collected: 11/10/23 14:40
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-25

Matrix: Solid
Percent Solids: 95.6

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0366	J	0.123	0.0221	mg/Kg	☼	11/21/23 12:00	11/27/23 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	95.6		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	4.4		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-2

Date Collected: 11/10/23 14:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-26

Matrix: Solid
Percent Solids: 96.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Acenaphthylene	ND		41.0	15.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Acetophenone	ND		102	25.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Anthracene	**28.0**	**J**	41.0	12.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Atrazine	ND		338	70.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzaldehyde	ND		338	57.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzo[a]anthracene	**188**		41.0	15.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzo[a]pyrene	**155**		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzo[b]fluoranthene	**143**		41.0	12.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzo[g,h,i]perylene	**181**		41.0	27.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Benzo[k]fluoranthene	**26.9**	**J**	41.0	10.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
1,1'-Biphenyl	ND		102	28.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Bis(2-chloroethoxy)methane	ND		102	20.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Bis(2-chloroethyl)ether	ND		102	22.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
bis (2-chloroisopropyl) ether	ND		102	26.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Bis(2-ethylhexyl) phthalate	ND		154	57.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Bromophenyl phenyl ether	ND		102	32.8	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Butyl benzyl phthalate	ND		154	52.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Caprolactam	ND		338	70.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Carbazole	ND		102	27.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Chloroaniline	ND		154	16.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Chloro-3-methylphenol	ND		154	38.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Chloronaphthalene	ND		102	28.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Chlorophenol	ND		102	26.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Chlorophenyl phenyl ether	ND		102	28.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Chrysene	**367**		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Dibenz(a,h)anthracene	**76.1**		41.0	15.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Dibenzofuran	ND		102	29.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
3,3'-Dichlorobenzidine	ND		154	97.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4-Dichlorophenol	ND		154	27.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Diethyl phthalate	ND		154	44.1	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4-Dimethylphenol	ND		154	36.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Dimethyl phthalate	ND		154	41.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Di-n-butyl phthalate	ND		154	24.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4,6-Dinitro-2-methylphenol	ND		338	107	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4-Dinitrophenol	ND		338	175	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4-Dinitrotoluene	ND		205	23.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,6-Dinitrotoluene	ND		205	36.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Di-n-octyl phthalate	ND		154	51.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Fluoranthene	**73.9**		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Fluorene	ND		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Hexachlorobenzene	ND		41.0	14.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Hexachlorobutadiene	ND		102	21.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Hexachlorocyclopentadiene	ND		338	40.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Hexachloroethane	ND		102	32.8	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Indeno[1,2,3-cd]pyrene	**74.6**		41.0	12.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Isophorone	ND		102	26.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Methylnaphthalene	**85.8**		41.0	13.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Methylphenol	ND		205	42.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-2

Date Collected: 11/10/23 14:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-26

Matrix: Solid
Percent Solids: 96.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		410	42.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Naphthalene	**45.0**		41.0	13.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Nitroaniline	ND		205	38.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
3-Nitroaniline	ND		205	35.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Nitroaniline	ND		205	26.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Nitrobenzene	ND		102	22.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2-Nitrophenol	ND		102	35.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
4-Nitrophenol	ND		338	92.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
N-Nitrosodi-n-propylamine	ND		102	37.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
N-Nitrosodiphenylamine	ND		102	27.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Pentachlorophenol	ND		277	108	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Phenanthrene	**415**		41.0	13.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Phenol	ND		102	38.9	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
Pyrene	**269**		41.0	16.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4,5-Trichlorophenol	ND		154	33.8	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1
2,4,6-Trichlorophenol	ND		154	29.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*38*		*34 - 120*	*11/21/23 09:59*	*11/27/23 18:11*	*1*
2-Fluorophenol (Surr)	*34*		*20 - 120*	*11/21/23 09:59*	*11/27/23 18:11*	*1*
Nitrobenzene-d5 (Surr)	*39*		*25 - 120*	*11/21/23 09:59*	*11/27/23 18:11*	*1*
Phenol-d5 (Surr)	*37*		*26 - 120*	*11/21/23 09:59*	*11/27/23 18:11*	*1*
Terphenyl-d14 (Surr)	*42*	*S1-*	*46 - 137*	*11/21/23 09:59*	*11/27/23 18:11*	*1*
2,4,6-Tribromophenol (Surr)	*34*		*10 - 120*	*11/21/23 09:59*	*11/27/23 18:11*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**9650**	**B**	14.8	3.96	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Antimony	**0.313**	**J**	1.48	0.267	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Arsenic	**6.97**		1.11	0.235	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Barium	**123**		14.8	0.269	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Beryllium	**0.619**		0.371	0.0401	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Cadmium	**0.233**	**J**	0.371	0.0356	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Calcium	**5250**		371	27.1	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Chromium	**16.5**		0.742	0.255	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Cobalt	**7.18**		0.742	0.0549	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Copper	**12.0**		1.86	0.175	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Iron	**13600**		14.8	5.15	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Lead	**24.3**		0.742	0.209	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Magnesium	**1670**		371	11.3	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Manganese	**437**		1.11	0.192	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Nickel	**14.6**		2.97	0.368	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Potassium	**744**		371	26.5	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Selenium	**0.789**	**J**	1.48	0.348	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Silver	ND		0.742	0.0601	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Sodium	ND		371	105	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Thallium	ND		1.48	0.296	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Vanadium	**26.3**		3.71	0.610	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1
Zinc	**52.1**		3.71	1.01	mg/Kg	☼	11/21/23 11:00	11/22/23 11:46	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-2

Date Collected: 11/10/23 14:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-26

Matrix: Solid
Percent Solids: 96.2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0380	J	0.0931	0.0168	mg/Kg	☼	11/21/23 12:00	11/27/23 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.2		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.8		0.1	0.1	%			11/20/23 16:52	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-3

Date Collected: 11/10/23 15:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-27

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Acenaphthylene	ND		40.6	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Acetophenone	ND		101	25.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Anthracene	**25.7**	**J**	40.6	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Atrazine	ND		335	70.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzaldehyde	ND		335	56.8	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzo[a]anthracene	**183**		40.6	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzo[a]pyrene	**141**		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzo[b]fluoranthene	**143**		40.6	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzo[g,h,i]perylene	**192**		40.6	27.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Benzo[k]fluoranthene	**37.7**	**J**	40.6	10.1	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
1,1'-Biphenyl	ND		101	28.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Bis(2-chloroethoxy)methane	ND		101	20.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Bis(2-chloroethyl)ether	ND		101	22.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
bis (2-chloroisopropyl) ether	ND		101	26.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Bis(2-ethylhexyl) phthalate	ND		152	56.8	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Bromophenyl phenyl ether	ND		101	32.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Butyl benzyl phthalate	ND		152	51.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Caprolactam	ND		335	70.0	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Carbazole	ND		101	27.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Chloroaniline	ND		152	16.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Chloro-3-methylphenol	ND		152	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Chloronaphthalene	ND		101	28.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Chlorophenol	ND		101	26.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Chlorophenyl phenyl ether	ND		101	28.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Chrysene	**363**		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Dibenz(a,h)anthracene	**79.3**		40.6	15.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Dibenzofuran	ND		101	29.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
3,3'-Dichlorobenzidine	ND		152	96.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4-Dichlorophenol	ND		152	27.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Diethyl phthalate	ND		152	43.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4-Dimethylphenol	ND		152	36.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Dimethyl phthalate	ND		152	40.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Di-n-butyl phthalate	ND		152	24.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4,6-Dinitro-2-methylphenol	ND		335	105	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4-Dinitrophenol	ND		335	173	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4-Dinitrotoluene	ND		203	23.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,6-Dinitrotoluene	ND		203	36.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Di-n-octyl phthalate	ND		152	50.7	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Fluoranthene	**92.9**		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Fluorene	ND		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Hexachlorobenzene	ND		40.6	14.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Hexachlorobutadiene	ND		101	21.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Hexachlorocyclopentadiene	ND		335	39.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Hexachloroethane	ND		101	32.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Indeno[1,2,3-cd]pyrene	**75.1**		40.6	12.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Isophorone	ND		101	26.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Methylnaphthalene	**80.0**		40.6	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Methylphenol	ND		203	41.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-3

Date Collected: 11/10/23 15:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-27

Matrix: Solid
Percent Solids: 96.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		406	41.6	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Naphthalene	**43.0**		40.6	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Nitroaniline	ND		203	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
3-Nitroaniline	ND		203	35.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Nitroaniline	ND		203	26.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Nitrobenzene	ND		101	22.3	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2-Nitrophenol	ND		101	35.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
4-Nitrophenol	ND		335	91.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
N-Nitrosodi-n-propylamine	ND		101	37.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
N-Nitrosodiphenylamine	ND		101	27.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Pentachlorophenol	ND		274	106	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Phenanthrene	**393**		40.6	13.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Phenol	ND		101	38.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
Pyrene	**276**		40.6	16.2	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4,5-Trichlorophenol	ND		152	33.5	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1
2,4,6-Trichlorophenol	ND		152	29.4	ug/Kg	☼	11/21/23 09:59	11/27/23 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*54*		*34 - 120*	*11/21/23 09:59*	*11/27/23 18:35*	*1*
2-Fluorophenol (Surr)	*48*		*20 - 120*	*11/21/23 09:59*	*11/27/23 18:35*	*1*
Nitrobenzene-d5 (Surr)	*55*		*25 - 120*	*11/21/23 09:59*	*11/27/23 18:35*	*1*
Phenol-d5 (Surr)	*53*		*26 - 120*	*11/21/23 09:59*	*11/27/23 18:35*	*1*
Terphenyl-d14 (Surr)	*61*		*46 - 137*	*11/21/23 09:59*	*11/27/23 18:35*	*1*
2,4,6-Tribromophenol (Surr)	*38*		*10 - 120*	*11/21/23 09:59*	*11/27/23 18:35*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**10600**	**B**	17.2	4.59	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Antimony	ND		1.72	0.309	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Arsenic	**6.68**		1.29	0.272	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Barium	**116**		17.2	0.311	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Beryllium	**0.609**		0.430	0.0464	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Cadmium	**0.241**	**J**	0.430	0.0413	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Calcium	**6660**		430	31.4	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Chromium	**16.7**		0.860	0.295	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Cobalt	**7.15**		0.860	0.0636	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Copper	**12.1**		2.15	0.203	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Iron	**13100**		17.2	5.97	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Lead	**21.8**		0.860	0.243	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Magnesium	**1820**		430	13.1	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Manganese	**380**		1.29	0.223	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Nickel	**12.9**		3.44	0.427	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Potassium	**737**		430	30.8	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Selenium	**0.744**	**J**	1.72	0.403	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Silver	ND		0.860	0.0697	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Sodium	ND		430	122	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Thallium	ND		1.72	0.343	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Vanadium	**26.3**		4.30	0.707	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1
Zinc	**50.3**		4.30	1.18	mg/Kg	☼	11/21/23 11:00	11/22/23 11:51	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-3

Date Collected: 11/10/23 15:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-27

Matrix: Solid
Percent Solids: 96.9

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0369	J	0.107	0.0192	mg/Kg	☼	11/21/23 12:00	11/27/23 14:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	96.9		0.1	0.1	%			11/20/23 16:52	1
Percent Moisture (EPA Moisture)	3.1		0.1	0.1	%			11/20/23 16:52	1

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-1

Date Collected: 11/10/23 15:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-28

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**89.8**	**J**	163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Acenaphthylene	ND		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Acetophenone	ND		408	102	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Anthracene	**443**		163	48.9	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Atrazine	ND		1350	281	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzaldehyde	ND		1350	228	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzo[a]anthracene	**1960**		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzo[a]pyrene	**1450**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzo[b]fluoranthene	**1620**		163	48.9	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzo[g,h,i]perylene	**1590**		163	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Benzo[k]fluoranthene	**393**		163	40.8	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
1,1'-Biphenyl	ND		408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Bis(2-chloroethoxy)methane	ND		408	81.5	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Bis(2-chloroethyl)ether	ND		408	89.7	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
bis (2-chloroisopropyl) ether	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Bis(2-ethylhexyl) phthalate	ND		612	228	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Bromophenyl phenyl ether	ND		408	130	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Butyl benzyl phthalate	ND		612	208	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Caprolactam	ND		1350	281	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Carbazole	**306**	**J**	408	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Chloroaniline	ND		612	65.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Chloro-3-methylphenol	ND		612	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Chloronaphthalene	ND		408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Chlorophenol	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Chlorophenyl phenyl ether	ND		408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Chrysene	**3490**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Dibenz(a,h)anthracene	**654**		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Dibenzofuran	**147**	**J**	408	118	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
3,3'-Dichlorobenzidine	ND		612	387	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4-Dichlorophenol	ND		612	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Diethyl phthalate	ND		612	175	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4-Dimethylphenol	ND		612	147	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Dimethyl phthalate	ND		612	163	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Di-n-butyl phthalate	ND		612	97.9	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4,6-Dinitro-2-methylphenol	ND		1350	424	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4-Dinitrophenol	ND		1350	697	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4-Dinitrotoluene	ND		815	93.8	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,6-Dinitrotoluene	ND		815	147	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Di-n-octyl phthalate	ND		612	204	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Fluoranthene	**1800**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Fluorene	**153**	**J**	163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Hexachlorobenzene	ND		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Hexachlorobutadiene	ND		408	85.6	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Hexachlorocyclopentadiene	ND		1350	159	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Hexachloroethane	ND		408	130	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Indeno[1,2,3-cd]pyrene	**715**		163	48.9	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Isophorone	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Methylnaphthalene	**1100**		163	53.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Methylphenol	ND		815	167	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-1

Date Collected: 11/10/23 15:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-28

Matrix: Solid
Percent Solids: 97.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		1630	167	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Naphthalene	**607**		163	53.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Nitroaniline	ND		815	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
3-Nitroaniline	ND		815	143	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Nitroaniline	ND		815	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Nitrobenzene	ND		408	89.7	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2-Nitrophenol	ND		408	143	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
4-Nitrophenol	ND		1350	367	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
N-Nitrosodi-n-propylamine	ND		408	151	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
N-Nitrosodiphenylamine	ND		408	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Pentachlorophenol	ND		1100	428	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Phenanthrene	**4730**		163	53.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Phenol	ND		408	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
Pyrene	**3010**		163	65.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4,5-Trichlorophenol	ND		612	135	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4
2,4,6-Trichlorophenol	ND		612	118	ug/Kg	☼	11/22/23 10:00	11/27/23 13:35	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*34*		*34 - 120*	*11/22/23 10:00*	*11/27/23 13:35*	*4*
2-Fluorophenol (Surr)	*25*		*20 - 120*	*11/22/23 10:00*	*11/27/23 13:35*	*4*
Nitrobenzene-d5 (Surr)	*30*		*25 - 120*	*11/22/23 10:00*	*11/27/23 13:35*	*4*
Phenol-d5 (Surr)	*31*		*26 - 120*	*11/22/23 10:00*	*11/27/23 13:35*	*4*
Terphenyl-d14 (Surr)	*37*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/27/23 13:35*	*4*
2,4,6-Tribromophenol (Surr)	*25*		*10 - 120*	*11/22/23 10:00*	*11/27/23 13:35*	*4*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8530**		17.8	4.74	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Antimony	ND		1.78	0.319	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Arsenic	**22.7**		1.33	0.281	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Barium	**166**		17.8	0.321	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Beryllium	**0.578**		0.444	0.0480	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Cadmium	**37.7**		0.444	0.0426	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Calcium	**59500**		2220	162	mg/Kg	☼	11/22/23 10:00	11/27/23 16:42	5
Chromium	**20.3**		0.888	0.305	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Cobalt	**8.77**		0.888	0.0657	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Copper	**23.3**		2.22	0.210	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Iron	**14600**		17.8	6.17	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Lead	**1770**		4.44	1.25	mg/Kg	☼	11/22/23 10:00	11/27/23 16:42	5
Magnesium	**2660**		444	13.6	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Manganese	**739**		1.33	0.230	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Nickel	**22.6**		3.55	0.440	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Potassium	**904**		444	31.8	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Selenium	**0.831**	**J**	1.78	0.417	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Silver	**3.93**		0.888	0.0719	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Sodium	ND		444	126	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Thallium	ND		1.78	0.354	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Vanadium	**31.4**		4.44	0.730	mg/Kg	☼	11/22/23 10:00	11/27/23 10:13	1
Zinc	**1090**		22.2	6.07	mg/Kg	☼	11/22/23 10:00	11/27/23 16:42	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-1

Date Collected: 11/10/23 15:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-28

Matrix: Solid
Percent Solids: 97.1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.109	J	0.119	0.0214	mg/Kg	☼	11/22/23 11:00	11/27/23 14:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.1		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	2.9		0.1	0.1	%			11/21/23 13:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-2

Date Collected: 11/10/23 15:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-29

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**64.1**	**J**	163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Acenaphthylene	ND		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Acetophenone	ND		408	102	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Anthracene	**393**		163	49.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Atrazine	ND		1350	282	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzaldehyde	ND		1350	229	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzo[a]anthracene	**2080**		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzo[a]pyrene	**1480**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzo[b]fluoranthene	**1580**		163	49.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzo[g,h,i]perylene	**1660**		163	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Benzo[k]fluoranthene	**315**		163	40.8	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
1,1'-Biphenyl	**121**	**J**	408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Bis(2-chloroethoxy)methane	ND		408	81.6	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Bis(2-chloroethyl)ether	ND		408	89.8	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
bis (2-chloroisopropyl) ether	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Bis(2-ethylhexyl) phthalate	ND		612	229	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Bromophenyl phenyl ether	ND		408	131	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Butyl benzyl phthalate	ND		612	208	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Caprolactam	ND		1350	282	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Carbazole	**353**	**J**	408	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Chloroaniline	ND		612	65.3	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Chloro-3-methylphenol	ND		612	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Chloronaphthalene	ND		408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Chlorophenol	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Chlorophenyl phenyl ether	ND		408	114	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Chrysene	**3910**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Dibenz(a,h)anthracene	**805**		163	61.2	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Dibenzofuran	ND		408	118	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
3,3'-Dichlorobenzidine	ND		612	388	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4-Dichlorophenol	ND		612	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Diethyl phthalate	ND		612	176	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4-Dimethylphenol	ND		612	147	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Dimethyl phthalate	ND		612	163	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Di-n-butyl phthalate	ND		612	98.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4,6-Dinitro-2-methylphenol	ND		1350	424	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4-Dinitrophenol	ND		1350	698	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4-Dinitrotoluene	ND		816	93.9	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,6-Dinitrotoluene	ND		816	147	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Di-n-octyl phthalate	ND		612	204	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Fluoranthene	**1200**		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Fluorene	**94.1**	**J**	163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Hexachlorobenzene	ND		163	57.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Hexachlorobutadiene	ND		408	85.7	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Hexachlorocyclopentadiene	ND		1350	159	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Hexachloroethane	ND		408	131	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Indeno[1,2,3-cd]pyrene	**737**		163	49.0	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Isophorone	ND		408	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Methylnaphthalene	**1360**		163	53.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Methylphenol	ND		816	167	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-2

Date Collected: 11/10/23 15:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-29

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		1630	167	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Naphthalene	**809**		163	53.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Nitroaniline	ND		816	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
3-Nitroaniline	ND		816	143	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Nitroaniline	ND		816	106	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Nitrobenzene	ND		408	89.8	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2-Nitrophenol	ND		408	143	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
4-Nitrophenol	ND		1350	367	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
N-Nitrosodi-n-propylamine	ND		408	151	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
N-Nitrosodiphenylamine	ND		408	110	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Pentachlorophenol	ND		1100	429	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Phenanthrene	**5580**		163	53.1	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Phenol	ND		408	155	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
Pyrene	**3010**		163	65.3	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4,5-Trichlorophenol	ND		612	135	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4
2,4,6-Trichlorophenol	ND		612	118	ug/Kg	☼	11/22/23 10:00	11/27/23 13:59	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*38*		*34 - 120*	*11/22/23 10:00*	*11/27/23 13:59*	*4*
2-Fluorophenol (Surr)	*32*		*20 - 120*	*11/22/23 10:00*	*11/27/23 13:59*	*4*
Nitrobenzene-d5 (Surr)	*35*		*25 - 120*	*11/22/23 10:00*	*11/27/23 13:59*	*4*
Phenol-d5 (Surr)	*35*		*26 - 120*	*11/22/23 10:00*	*11/27/23 13:59*	*4*
Terphenyl-d14 (Surr)	*41*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/27/23 13:59*	*4*
2,4,6-Tribromophenol (Surr)	*21*		*10 - 120*	*11/22/23 10:00*	*11/27/23 13:59*	*4*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8150**		17.3	4.62	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Antimony	ND	F1	1.73	0.311	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Arsenic	**27.5**		1.30	0.274	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Barium	**389**	**F1 F2**	17.3	0.314	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Beryllium	**0.547**		0.433	0.0468	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Cadmium	**49.9**		0.433	0.0416	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Calcium	**61600**		2170	158	mg/Kg	☼	11/22/23 10:00	11/27/23 11:45	5
Chromium	**22.8**		0.866	0.297	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Cobalt	**6.54**		0.866	0.0641	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Copper	**26.9**		2.17	0.204	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Iron	**13900**		17.3	6.01	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Lead	**2530**		4.33	1.22	mg/Kg	☼	11/22/23 10:00	11/27/23 11:45	5
Magnesium	**2310**		433	13.2	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Manganese	**463**		1.30	0.224	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Nickel	**20.6**		3.46	0.430	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Potassium	**865**		433	31.0	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Selenium	**0.687**	**J**	1.73	0.406	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Silver	**5.66**		0.866	0.0701	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Sodium	ND		433	123	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Thallium	ND		1.73	0.346	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Vanadium	**28.8**		4.33	0.712	mg/Kg	☼	11/22/23 10:00	11/27/23 09:52	1
Zinc	**1420**		21.7	5.92	mg/Kg	☼	11/22/23 10:00	11/27/23 11:45	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-2

Date Collected: 11/10/23 15:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-29

Matrix: Solid
Percent Solids: 97.0

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.122	F1 F2	0.107	0.0192	mg/Kg	☼	11/22/23 11:00	11/27/23 14:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/21/23 13:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-3

Date Collected: 11/10/23 15:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-30

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Acenaphthylene	ND		164	61.4	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Acetophenone	ND		409	102	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Anthracene	**404**		164	49.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Atrazine	ND		1350	282	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzaldehyde	ND		1350	229	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzo[a]anthracene	**2520**		164	61.4	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzo[a]pyrene	**1720**		164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzo[b]fluoranthene	**1820**		164	49.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzo[g,h,i]perylene	**2050**		164	111	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Benzo[k]fluoranthene	**296**		164	40.9	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
1,1'-Biphenyl	**168**	**J**	409	115	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Bis(2-chloroethoxy)methane	ND		409	81.9	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Bis(2-chloroethyl)ether	ND		409	90.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
bis (2-chloroisopropyl) ether	ND		409	106	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Bis(2-ethylhexyl) phthalate	ND		614	229	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Bromophenyl phenyl ether	ND		409	131	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Butyl benzyl phthalate	ND		614	209	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Caprolactam	ND		1350	282	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Carbazole	**423**		409	111	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Chloroaniline	ND		614	65.5	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Chloro-3-methylphenol	ND		614	156	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Chloronaphthalene	ND		409	115	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Chlorophenol	ND		409	106	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Chlorophenyl phenyl ether	ND		409	115	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Chrysene	**5020**		164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Dibenz(a,h)anthracene	**1060**		164	61.4	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Dibenzofuran	**140**	**J**	409	119	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
3,3'-Dichlorobenzidine	ND		614	389	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4-Dichlorophenol	ND		614	111	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Diethyl phthalate	ND		614	176	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4-Dimethylphenol	ND		614	147	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Dimethyl phthalate	ND		614	164	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Di-n-butyl phthalate	ND		614	98.2	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4,6-Dinitro-2-methylphenol	ND		1350	426	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4-Dinitrophenol	ND		1350	700	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4-Dinitrotoluene	ND		819	94.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,6-Dinitrotoluene	ND		819	147	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Di-n-octyl phthalate	ND		614	205	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Fluoranthene	**1090**		164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Fluorene	**109**	**J**	164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Hexachlorobenzene	ND		164	57.3	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Hexachlorobutadiene	ND		409	86.0	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Hexachlorocyclopentadiene	ND		1350	160	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Hexachloroethane	ND		409	131	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Indeno[1,2,3-cd]pyrene	**901**		164	49.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Isophorone	ND		409	106	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Methylnaphthalene	**2010**		164	53.2	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Methylphenol	ND		819	168	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-3

Date Collected: 11/10/23 15:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-30

Matrix: Solid
Percent Solids: 97.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		1640	168	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Naphthalene	**1180**		164	53.2	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Nitroaniline	ND		819	156	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
3-Nitroaniline	ND		819	143	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Nitroaniline	ND		819	106	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Nitrobenzene	ND		409	90.1	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2-Nitrophenol	ND		409	143	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
4-Nitrophenol	ND		1350	368	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
N-Nitrosodi-n-propylamine	ND		409	151	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
N-Nitrosodiphenylamine	ND		409	111	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Pentachlorophenol	ND		1110	430	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Phenanthrene	**7250**		164	53.2	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Phenol	ND		409	156	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
Pyrene	**3580**		164	65.5	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4,5-Trichlorophenol	ND		614	135	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4
2,4,6-Trichlorophenol	ND		614	119	ug/Kg	☼	11/22/23 10:00	11/28/23 13:23	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*38*		*34 - 120*	*11/22/23 10:00*	*11/28/23 13:23*	*4*
2-Fluorophenol (Surr)	*35*		*20 - 120*	*11/22/23 10:00*	*11/28/23 13:23*	*4*
Nitrobenzene-d5 (Surr)	*35*		*25 - 120*	*11/22/23 10:00*	*11/28/23 13:23*	*4*
Phenol-d5 (Surr)	*35*		*26 - 120*	*11/22/23 10:00*	*11/28/23 13:23*	*4*
Terphenyl-d14 (Surr)	*38*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/28/23 13:23*	*4*
2,4,6-Tribromophenol (Surr)	*29*		*10 - 120*	*11/22/23 10:00*	*11/28/23 13:23*	*4*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**7080**		14.0	3.73	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Antimony	ND		1.40	0.251	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Arsenic	**30.7**		1.05	0.221	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Barium	**117**		14.0	0.253	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Beryllium	**0.476**		0.350	0.0378	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Cadmium	**45.0**		0.350	0.0336	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Calcium	**68700**		1750	128	mg/Kg	☼	11/22/23 10:00	11/27/23 16:55	5
Chromium	**25.8**		0.700	0.240	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Cobalt	**5.25**		0.700	0.0518	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Copper	**31.4**		8.75	0.826	mg/Kg	☼	11/22/23 10:00	11/27/23 16:55	5
Iron	**12700**		14.0	4.86	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Lead	**2940**		3.50	0.987	mg/Kg	☼	11/22/23 10:00	11/27/23 16:55	5
Magnesium	**2220**		350	10.7	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Manganese	**382**		1.05	0.181	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Nickel	**17.9**		2.80	0.347	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Potassium	**833**		350	25.0	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Selenium	**1.01**	**J**	1.40	0.328	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Silver	**6.73**		0.700	0.0567	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Sodium	ND		350	99.3	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Thallium	ND		1.40	0.279	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Vanadium	**27.2**		3.50	0.575	mg/Kg	☼	11/22/23 10:00	11/27/23 10:18	1
Zinc	**1630**		17.5	4.78	mg/Kg	☼	11/22/23 10:00	11/27/23 16:55	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-3

Date Collected: 11/10/23 15:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-30

Matrix: Solid
Percent Solids: 97.2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.143		0.0908	0.0163	mg/Kg	☼	11/22/23 11:00	11/27/23 14:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.2		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	2.8		0.1	0.1	%			11/21/23 13:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-1

Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Acenaphthylene	ND		40.7	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Acetophenone	ND		102	25.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Anthracene	**29.7**	**J**	40.7	12.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Atrazine	ND		336	70.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzaldehyde	ND		336	57.0	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzo[a]anthracene	**190**		40.7	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzo[a]pyrene	**152**		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzo[b]fluoranthene	**136**		40.7	12.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzo[g,h,i]perylene	**181**		40.7	27.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Benzo[k]fluoranthene	**28.1**	**J**	40.7	10.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
1,1'-Biphenyl	ND		102	28.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Bis(2-chloroethoxy)methane	ND		102	20.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Bis(2-chloroethyl)ether	ND		102	22.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
bis (2-chloroisopropyl) ether	ND		102	26.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Bis(2-ethylhexyl) phthalate	ND		153	57.0	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Bromophenyl phenyl ether	ND		102	32.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Butyl benzyl phthalate	ND		153	51.9	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Caprolactam	ND		336	70.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Carbazole	ND		102	27.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Chloro-3-methylphenol	ND		153	38.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Chloronaphthalene	ND		102	28.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Chlorophenol	ND		102	26.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Chlorophenyl phenyl ether	ND		102	28.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Chrysene	**367**		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Dibenz(a,h)anthracene	**92.8**		40.7	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Dibenzofuran	ND		102	29.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
3,3'-Dichlorobenzidine	ND		153	96.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4-Dichlorophenol	ND		153	27.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Diethyl phthalate	ND		153	43.7	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4-Dimethylphenol	ND		153	36.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Dimethyl phthalate	ND		153	40.7	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Di-n-butyl phthalate	ND		153	24.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4,6-Dinitro-2-methylphenol	ND		336	106	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4-Dinitrophenol	ND		336	174	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4-Dinitrotoluene	ND		203	23.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,6-Dinitrotoluene	ND		203	36.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Di-n-octyl phthalate	ND		153	50.9	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Fluoranthene	**76.8**		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Fluorene	ND		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Hexachlorobenzene	ND		40.7	14.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Hexachlorobutadiene	ND		102	21.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Hexachlorocyclopentadiene	ND		336	39.7	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Hexachloroethane	ND		102	32.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Indeno[1,2,3-cd]pyrene	**73.4**		40.7	12.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Isophorone	ND		102	26.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Methylnaphthalene	**76.9**		40.7	13.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Methylphenol	ND		203	41.7	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1

Client Sample ID: DU-23-1
Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31
Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		407	41.7	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Naphthalene	**41.9**		40.7	13.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Nitroaniline	ND		203	38.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
3-Nitroaniline	ND		203	35.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Nitroaniline	ND		203	26.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Nitrobenzene	ND		102	22.4	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2-Nitrophenol	ND		102	35.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
4-Nitrophenol	ND		336	91.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
N-Nitrosodi-n-propylamine	ND		102	37.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
N-Nitrosodiphenylamine	ND		102	27.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Pentachlorophenol	ND		275	107	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Phenanthrene	**392**		40.7	13.2	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Phenol	ND		102	38.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
Pyrene	**257**		40.7	16.3	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4,5-Trichlorophenol	ND		153	33.6	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1
2,4,6-Trichlorophenol	ND		153	29.5	ug/Kg	☼	11/22/23 10:00	11/27/23 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*12*	*S1-*	*34 - 120*	*11/22/23 10:00*	*11/27/23 14:46*	*1*
2-Fluorophenol (Surr)	*11*	*S1-*	*20 - 120*	*11/22/23 10:00*	*11/27/23 14:46*	*1*
Nitrobenzene-d5 (Surr)	*12*	*S1-*	*25 - 120*	*11/22/23 10:00*	*11/27/23 14:46*	*1*
Phenol-d5 (Surr)	*12*	*S1-*	*26 - 120*	*11/22/23 10:00*	*11/27/23 14:46*	*1*
Terphenyl-d14 (Surr)	*14*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/27/23 14:46*	*1*
2,4,6-Tribromophenol (Surr)	*7*	*S1-*	*10 - 120*	*11/22/23 10:00*	*11/27/23 14:46*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	H	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Acenaphthylene	ND	H	40.9	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Acetophenone	ND	H	102	25.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Anthracene	**77.8**	**H**	40.9	12.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Atrazine	ND	H	338	70.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzaldehyde	ND	H	338	57.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzo[a]anthracene	**507**	**H**	40.9	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzo[a]pyrene	**367**	**H**	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzo[b]fluoranthene	**414**	**H**	40.9	12.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzo[g,h,i]perylene	**513**	**H**	40.9	27.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Benzo[k]fluoranthene	**63.1**	**H**	40.9	10.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
1,1'-Biphenyl	ND	H	102	28.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Bis(2-chloroethoxy)methane	ND	H	102	20.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Bis(2-chloroethyl)ether	ND	H	102	22.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
bis (2-chloroisopropyl) ether	ND	H	102	26.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Bis(2-ethylhexyl) phthalate	ND	H	153	57.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Bromophenyl phenyl ether	ND	H	102	32.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Butyl benzyl phthalate	ND	H	153	52.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Caprolactam	ND	H	338	70.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Carbazole	**65.5**	**J H**	102	27.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Chloroaniline	ND	H	153	16.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Chloro-3-methylphenol	ND	H	153	38.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2-Chloronaphthalene	ND	H	102	28.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-1

Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31

Matrix: Solid
Percent Solids: 97.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	102	26.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Chlorophenyl phenyl ether	ND	H	102	28.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Chrysene	**1050**	**H**	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Dibenz(a,h)anthracene	**237**	**H**	40.9	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Dibenzofuran	ND	H	102	29.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
3,3'-Dichlorobenzidine	ND	H	153	97.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4-Dichlorophenol	ND	H	153	27.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Diethyl phthalate	ND	H	153	44.0	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4-Dimethylphenol	ND	H	153	36.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Dimethyl phthalate	ND	H	153	40.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Di-n-butyl phthalate	ND	H	153	24.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4,6-Dinitro-2-methylphenol	ND	H	338	106	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4-Dinitrophenol	ND	H	338	175	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4-Dinitrotoluene	ND	H	205	23.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,6-Dinitrotoluene	ND	H	205	36.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Di-n-octyl phthalate	ND	H	153	51.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Fluoranthene	**219**	**H**	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Fluorene	**20.9**	**J H**	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Hexachlorobenzene	ND	H	40.9	14.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Hexachlorobutadiene	ND	H	102	21.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Hexachlorocyclopentadiene	ND	H	338	39.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Hexachloroethane	ND	H	102	32.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Indeno[1,2,3-cd]pyrene	**192**	**H**	40.9	12.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Isophorone	ND	H	102	26.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2-Methylnaphthalene	**221**	**H**	40.9	13.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2-Methylphenol	ND	H	205	41.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
3 & 4 Methylphenol	ND	H	409	41.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Naphthalene	**110**	**H**	40.9	13.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2-Nitroaniline	ND	H	205	38.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
3-Nitroaniline	ND	H	205	35.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Nitroaniline	ND	H	205	26.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Nitrobenzene	ND	H	102	22.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2-Nitrophenol	ND	H	102	35.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
4-Nitrophenol	ND	H	338	92.1	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
N-Nitrosodi-n-propylamine	ND	H	102	37.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
N-Nitrosodiphenylamine	ND	H	102	27.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Pentachlorophenol	ND	H	276	107	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Phenanthrene	**1180**	**H**	40.9	13.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Phenol	ND	H	102	38.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
Pyrene	**665**	**H**	40.9	16.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4,5-Trichlorophenol	ND	H	153	33.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1
2,4,6-Trichlorophenol	ND	H	153	29.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*39*		*34 - 120*	*11/30/23 08:21*	*12/04/23 18:18*	*1*
2-Fluorophenol (Surr)	*36*		*20 - 120*	*11/30/23 08:21*	*12/04/23 18:18*	*1*
Nitrobenzene-d5 (Surr)	*34*		*25 - 120*	*11/30/23 08:21*	*12/04/23 18:18*	*1*
Phenol-d5 (Surr)	*38*		*26 - 120*	*11/30/23 08:21*	*12/04/23 18:18*	*1*
Terphenyl-d14 (Surr)	*49*		*46 - 137*	*11/30/23 08:21*	*12/04/23 18:18*	*1*
2,4,6-Tribromophenol (Surr)	*41*		*10 - 120*	*11/30/23 08:21*	*12/04/23 18:18*	*1*

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-1

Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31

Matrix: Solid
Percent Solids: 97.0

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9230		17.0	4.54	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Antimony	0.867	J	1.70	0.306	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Arsenic	7.09		1.28	0.269	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Barium	156		17.0	0.308	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Beryllium	0.517		0.426	0.0460	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Cadmium	0.350	J	0.426	0.0409	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Calcium	19500		426	31.0	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Chromium	14.4		0.852	0.292	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Cobalt	7.37		0.852	0.0630	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Copper	11.5		2.13	0.201	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Iron	13600		17.0	5.91	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Lead	44.6		0.852	0.240	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Magnesium	1720		426	13.0	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Manganese	550		1.28	0.221	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Nickel	13.8		3.41	0.422	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Potassium	863		426	30.5	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Selenium	0.732	J	1.70	0.399	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Silver	ND		0.852	0.0690	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Sodium	ND		426	121	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Thallium	ND		1.70	0.340	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Vanadium	27.4		4.26	0.700	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1
Zinc	57.1		4.26	1.16	mg/Kg	☼	11/22/23 10:00	11/27/23 10:22	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0314	J	0.105	0.0189	mg/Kg	☼	11/22/23 11:00	11/27/23 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.0		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	3.0		0.1	0.1	%			11/21/23 13:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-2

Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Acenaphthylene	ND		40.9	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Acetophenone	ND		102	25.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Anthracene	**54.0**		40.9	12.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Atrazine	ND		337	70.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzaldehyde	ND		337	57.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzo[a]anthracene	**325**		40.9	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzo[a]pyrene	**254**		40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzo[b]fluoranthene	**258**		40.9	12.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzo[g,h,i]perylene	**302**		40.9	27.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Benzo[k]fluoranthene	**47.9**		40.9	10.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
1,1'-Biphenyl	ND		102	28.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Bis(2-chloroethoxy)methane	ND		102	20.4	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Bis(2-chloroethyl)ether	ND		102	22.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
bis (2-chloroisopropyl) ether	ND		102	26.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Bis(2-ethylhexyl) phthalate	ND		153	57.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Bromophenyl phenyl ether	ND		102	32.7	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Butyl benzyl phthalate	ND		153	52.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Caprolactam	ND		337	70.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Carbazole	**42.3**	**J**	102	27.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Chloroaniline	ND		153	16.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Chloro-3-methylphenol	ND		153	38.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Chloronaphthalene	ND		102	28.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Chlorophenol	ND		102	26.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Chlorophenyl phenyl ether	ND		102	28.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Chrysene	**597**		40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Dibenz(a,h)anthracene	**138**		40.9	15.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Dibenzofuran	ND		102	29.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
3,3'-Dichlorobenzidine	ND		153	97.0	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4-Dichlorophenol	ND		153	27.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Diethyl phthalate	ND		153	43.9	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4-Dimethylphenol	ND		153	36.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Dimethyl phthalate	ND		153	40.9	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Di-n-butyl phthalate	ND		153	24.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4,6-Dinitro-2-methylphenol	ND		337	106	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4-Dinitrophenol	ND		337	175	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4-Dinitrotoluene	ND		204	23.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,6-Dinitrotoluene	ND		204	36.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Di-n-octyl phthalate	ND		153	51.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Fluoranthene	**188**		40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Fluorene	**16.7**	**J**	40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Hexachlorobenzene	ND		40.9	14.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Hexachlorobutadiene	ND		102	21.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Hexachlorocyclopentadiene	ND		337	39.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Hexachloroethane	ND		102	32.7	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Indeno[1,2,3-cd]pyrene	**129**		40.9	12.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Isophorone	ND		102	26.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Methylnaphthalene	**128**		40.9	13.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Methylphenol	ND		204	41.9	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1

Client Sample ID: DU-23-2

Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		409	41.9	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Naphthalene	**69.4**		40.9	13.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Nitroaniline	ND		204	38.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
3-Nitroaniline	ND		204	35.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Nitroaniline	ND		204	26.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Nitrobenzene	ND		102	22.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2-Nitrophenol	ND		102	35.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
4-Nitrophenol	ND		337	91.9	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
N-Nitrosodi-n-propylamine	ND		102	37.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
N-Nitrosodiphenylamine	ND		102	27.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Pentachlorophenol	ND		276	107	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Phenanthrene	**660**		40.9	13.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Phenol	ND		102	38.8	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
Pyrene	**445**		40.9	16.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4,5-Trichlorophenol	ND		153	33.7	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1
2,4,6-Trichlorophenol	ND		153	29.6	ug/Kg	☼	11/22/23 10:00	11/27/23 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*23*	*S1-*	*34 - 120*	*11/22/23 10:00*	*11/27/23 15:09*	*1*
2-Fluorophenol (Surr)	*22*		*20 - 120*	*11/22/23 10:00*	*11/27/23 15:09*	*1*
Nitrobenzene-d5 (Surr)	*24*	*S1-*	*25 - 120*	*11/22/23 10:00*	*11/27/23 15:09*	*1*
Phenol-d5 (Surr)	*25*	*S1-*	*26 - 120*	*11/22/23 10:00*	*11/27/23 15:09*	*1*
Terphenyl-d14 (Surr)	*26*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/27/23 15:09*	*1*
2,4,6-Tribromophenol (Surr)	*16*		*10 - 120*	*11/22/23 10:00*	*11/27/23 15:09*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	H	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Acenaphthylene	ND	H	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Acetophenone	ND	H	102	25.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Anthracene	**67.8**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Atrazine	ND	H	336	70.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzaldehyde	ND	H	336	56.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzo[a]anthracene	**415**	**H**	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzo[a]pyrene	**294**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzo[b]fluoranthene	**332**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzo[g,h,i]perylene	**418**	**H**	40.7	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Benzo[k]fluoranthene	**44.6**	**H**	40.7	10.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
1,1'-Biphenyl	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Bis(2-chloroethoxy)methane	ND	H	102	20.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Bis(2-chloroethyl)ether	ND	H	102	22.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
bis (2-chloroisopropyl) ether	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Bis(2-ethylhexyl) phthalate	ND	H	153	56.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Bromophenyl phenyl ether	ND	H	102	32.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Butyl benzyl phthalate	ND	H	153	51.9	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Caprolactam	ND	H	336	70.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Carbazole	**51.0**	**J H**	102	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Chloroaniline	ND	H	153	16.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Chloro-3-methylphenol	ND	H	153	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2-Chloronaphthalene	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1

Client Sample ID: DU-23-2

Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32

Matrix: Solid
Percent Solids: 97.4

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Chlorophenyl phenyl ether	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Chrysene	**793**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Dibenz(a,h)anthracene	**167**	**H**	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Dibenzofuran	ND	H	102	29.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
3,3'-Dichlorobenzidine	ND	H	153	96.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4-Dichlorophenol	ND	H	153	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Diethyl phthalate	ND	H	153	43.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4-Dimethylphenol	ND	H	153	36.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Dimethyl phthalate	ND	H	153	40.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Di-n-butyl phthalate	ND	H	153	24.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4,6-Dinitro-2-methylphenol	ND	H	336	106	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4-Dinitrophenol	ND	H	336	174	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4-Dinitrotoluene	ND	H	203	23.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,6-Dinitrotoluene	ND	H	203	36.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Di-n-octyl phthalate	ND	H	153	50.8	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Fluoranthene	**222**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Fluorene	**20.8**	**J H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Hexachlorobenzene	ND	H	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Hexachlorobutadiene	ND	H	102	21.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Hexachlorocyclopentadiene	ND	H	336	39.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Hexachloroethane	ND	H	102	32.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Indeno[1,2,3-cd]pyrene	**163**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Isophorone	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2-Methylnaphthalene	**166**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2-Methylphenol	ND	H	203	41.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
3 & 4 Methylphenol	ND	H	407	41.7	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Naphthalene	**84.0**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2-Nitroaniline	ND	H	203	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
3-Nitroaniline	ND	H	203	35.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Nitroaniline	ND	H	203	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Nitrobenzene	ND	H	102	22.4	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2-Nitrophenol	ND	H	102	35.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
4-Nitrophenol	ND	H	336	91.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
N-Nitrosodi-n-propylamine	ND	H	102	37.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
N-Nitrosodiphenylamine	ND	H	102	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Pentachlorophenol	ND	H	275	107	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Phenanthrene	**897**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Phenol	ND	H	102	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
Pyrene	**547**	**H**	40.7	16.3	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4,5-Trichlorophenol	ND	H	153	33.6	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1
2,4,6-Trichlorophenol	ND	H	153	29.5	ug/Kg	☼	11/30/23 08:21	12/04/23 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*35*		*34 - 120*	*11/30/23 08:21*	*12/04/23 18:42*	*1*
2-Fluorophenol (Surr)	*31*		*20 - 120*	*11/30/23 08:21*	*12/04/23 18:42*	*1*
Nitrobenzene-d5 (Surr)	*31*		*25 - 120*	*11/30/23 08:21*	*12/04/23 18:42*	*1*
Phenol-d5 (Surr)	*34*		*26 - 120*	*11/30/23 08:21*	*12/04/23 18:42*	*1*
Terphenyl-d14 (Surr)	*44*	*S1-*	*46 - 137*	*11/30/23 08:21*	*12/04/23 18:42*	*1*
2,4,6-Tribromophenol (Surr)	*40*		*10 - 120*	*11/30/23 08:21*	*12/04/23 18:42*	*1*

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-2

Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32

Matrix: Solid
Percent Solids: 97.4

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8310		19.0	5.07	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Antimony	0.667	J	1.90	0.341	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Arsenic	7.72		1.43	0.300	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Barium	146		19.0	0.344	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Beryllium	0.515		0.475	0.0513	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Cadmium	0.255	J	0.475	0.0456	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Calcium	15000		475	34.7	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Chromium	13.3		0.951	0.326	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Cobalt	8.26		0.951	0.0704	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Copper	9.69		2.38	0.224	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Iron	13500		19.0	6.60	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Lead	41.2		0.951	0.268	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Magnesium	1560		475	14.5	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Manganese	803		1.43	0.246	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Nickel	12.5		3.80	0.472	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Potassium	756		475	34.0	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Selenium	0.845	J	1.90	0.446	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Silver	ND		0.951	0.0770	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Sodium	ND		475	135	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Thallium	ND		1.90	0.379	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Vanadium	28.1		4.75	0.782	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1
Zinc	47.3		4.75	1.30	mg/Kg	☼	11/22/23 10:00	11/27/23 10:27	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0311	J	0.121	0.0217	mg/Kg	☼	11/22/23 11:00	11/27/23 14:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.4		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	2.6		0.1	0.1	%			11/21/23 13:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-3

Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33

Matrix: Solid
Percent Solids: 97.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Acenaphthylene	ND		40.3	15.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Acetophenone	ND		101	25.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Anthracene	**55.4**		40.3	12.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Atrazine	ND		333	69.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzaldehyde	ND		333	56.4	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzo[a]anthracene	**321**		40.3	15.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzo[a]pyrene	**249**		40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzo[b]fluoranthene	**260**		40.3	12.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzo[g,h,i]perylene	**295**		40.3	27.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Benzo[k]fluoranthene	**46.5**		40.3	10.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
1,1'-Biphenyl	ND		101	28.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Bis(2-chloroethoxy)methane	ND		101	20.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Bis(2-chloroethyl)ether	ND		101	22.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
bis (2-chloroisopropyl) ether	ND		101	26.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Bis(2-ethylhexyl) phthalate	ND		151	56.4	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Bromophenyl phenyl ether	ND		101	32.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Butyl benzyl phthalate	ND		151	51.4	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Caprolactam	ND		333	69.5	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Carbazole	**45.8**	**J**	101	27.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Chloroaniline	ND		151	16.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Chloro-3-methylphenol	ND		151	38.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Chloronaphthalene	ND		101	28.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Chlorophenol	ND		101	26.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Chlorophenyl phenyl ether	ND		101	28.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Chrysene	**584**		40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Dibenz(a,h)anthracene	**138**		40.3	15.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Dibenzofuran	ND		101	29.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
3,3'-Dichlorobenzidine	ND		151	95.7	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4-Dichlorophenol	ND		151	27.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Diethyl phthalate	ND		151	43.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4-Dimethylphenol	ND		151	36.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Dimethyl phthalate	ND		151	40.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Di-n-butyl phthalate	**52.3**	**J**	151	24.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4,6-Dinitro-2-methylphenol	ND		333	105	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4-Dinitrophenol	ND		333	172	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4-Dinitrotoluene	ND		202	23.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,6-Dinitrotoluene	ND		202	36.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Di-n-octyl phthalate	ND		151	50.4	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Fluoranthene	**196**		40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Fluorene	**16.6**	**J**	40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Hexachlorobenzene	ND		40.3	14.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Hexachlorobutadiene	ND		101	21.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Hexachlorocyclopentadiene	ND		333	39.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Hexachloroethane	ND		101	32.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Indeno[1,2,3-cd]pyrene	**132**		40.3	12.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Isophorone	ND		101	26.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Methylnaphthalene	**126**		40.3	13.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Methylphenol	ND		202	41.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1

Client Sample ID: DU-23-3

Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33

Matrix: Solid
Percent Solids: 97.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		403	41.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Naphthalene	**69.6**		40.3	13.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Nitroaniline	ND		202	38.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
3-Nitroaniline	ND		202	35.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Nitroaniline	ND		202	26.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Nitrobenzene	ND		101	22.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2-Nitrophenol	ND		101	35.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
4-Nitrophenol	ND		333	90.7	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
N-Nitrosodi-n-propylamine	ND		101	37.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
N-Nitrosodiphenylamine	ND		101	27.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Pentachlorophenol	ND		272	106	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Phenanthrene	**684**		40.3	13.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Phenol	ND		101	38.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
Pyrene	**454**		40.3	16.1	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4,5-Trichlorophenol	ND		151	33.3	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1
2,4,6-Trichlorophenol	ND		151	29.2	ug/Kg	☼	11/22/23 10:00	11/27/23 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*25*	*S1-*	*34 - 120*	*11/22/23 10:00*	*11/27/23 15:33*	*1*
2-Fluorophenol (Surr)	*25*		*20 - 120*	*11/22/23 10:00*	*11/27/23 15:33*	*1*
Nitrobenzene-d5 (Surr)	*26*		*25 - 120*	*11/22/23 10:00*	*11/27/23 15:33*	*1*
Phenol-d5 (Surr)	*26*		*26 - 120*	*11/22/23 10:00*	*11/27/23 15:33*	*1*
Terphenyl-d14 (Surr)	*28*	*S1-*	*46 - 137*	*11/22/23 10:00*	*11/27/23 15:33*	*1*
2,4,6-Tribromophenol (Surr)	*14*		*10 - 120*	*11/22/23 10:00*	*11/27/23 15:33*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	H	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Acenaphthylene	ND	H	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Acetophenone	ND	H	102	25.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Anthracene	**81.8**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Atrazine	ND	H	336	70.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzaldehyde	ND	H	336	57.0	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzo[a]anthracene	**467**	**H**	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzo[a]pyrene	**353**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzo[b]fluoranthene	**330**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzo[g,h,i]perylene	**466**	**H**	40.7	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Benzo[k]fluoranthene	**83.0**	**H**	40.7	10.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
1,1'-Biphenyl	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Bis(2-chloroethoxy)methane	ND	H	102	20.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Bis(2-chloroethyl)ether	ND	H	102	22.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
bis (2-chloroisopropyl) ether	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Bis(2-ethylhexyl) phthalate	ND	H	153	57.0	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Bromophenyl phenyl ether	ND	H	102	32.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Butyl benzyl phthalate	ND	H	153	51.9	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Caprolactam	ND	H	336	70.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Carbazole	**60.9**	**J H**	102	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Chloroaniline	ND	H	153	16.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Chloro-3-methylphenol	ND	H	153	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2-Chloronaphthalene	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1

Client Sample ID: DU-23-3

Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33

Matrix: Solid
Percent Solids: 97.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Chlorophenyl phenyl ether	ND	H	102	28.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Chrysene	**887**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Dibenz(a,h)anthracene	**206**	**H**	40.7	15.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Dibenzofuran	ND	H	102	29.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
3,3'-Dichlorobenzidine	ND	H	153	96.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4-Dichlorophenol	ND	H	153	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Diethyl phthalate	ND	H	153	43.7	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4-Dimethylphenol	ND	H	153	36.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Dimethyl phthalate	ND	H	153	40.7	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Di-n-butyl phthalate	ND	H	153	24.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4,6-Dinitro-2-methylphenol	ND	H	336	106	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4-Dinitrophenol	ND	H	336	174	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4-Dinitrotoluene	ND	H	203	23.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,6-Dinitrotoluene	ND	H	203	36.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Di-n-octyl phthalate	ND	H	153	50.9	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Fluoranthene	**229**	**H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Fluorene	**19.4**	**J H**	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Hexachlorobenzene	ND	H	40.7	14.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Hexachlorobutadiene	ND	H	102	21.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Hexachlorocyclopentadiene	ND	H	336	39.7	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Hexachloroethane	ND	H	102	32.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Indeno[1,2,3-cd]pyrene	**185**	**H**	40.7	12.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Isophorone	ND	H	102	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2-Methylnaphthalene	**192**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2-Methylphenol	ND	H	203	41.7	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
3 & 4 Methylphenol	ND	H	407	41.7	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Naphthalene	**104**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2-Nitroaniline	ND	H	203	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
3-Nitroaniline	ND	H	203	35.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Nitroaniline	ND	H	203	26.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Nitrobenzene	ND	H	102	22.4	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2-Nitrophenol	ND	H	102	35.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
4-Nitrophenol	ND	H	336	91.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
N-Nitrosodi-n-propylamine	ND	H	102	37.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
N-Nitrosodiphenylamine	ND	H	102	27.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Pentachlorophenol	ND	H	275	107	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Phenanthrene	**1090**	**H**	40.7	13.2	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Phenol	ND	H	102	38.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
Pyrene	**608**	**H**	40.7	16.3	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4,5-Trichlorophenol	ND	H	153	33.6	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1
2,4,6-Trichlorophenol	ND	H	153	29.5	ug/Kg	☼	11/30/23 08:21	12/04/23 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*36*		*34 - 120*	*11/30/23 08:21*	*12/04/23 19:06*	*1*
2-Fluorophenol (Surr)	*35*		*20 - 120*	*11/30/23 08:21*	*12/04/23 19:06*	*1*
Nitrobenzene-d5 (Surr)	*33*		*25 - 120*	*11/30/23 08:21*	*12/04/23 19:06*	*1*
Phenol-d5 (Surr)	*36*		*26 - 120*	*11/30/23 08:21*	*12/04/23 19:06*	*1*
Terphenyl-d14 (Surr)	*46*		*46 - 137*	*11/30/23 08:21*	*12/04/23 19:06*	*1*
2,4,6-Tribromophenol (Surr)	*32*		*10 - 120*	*11/30/23 08:21*	*12/04/23 19:06*	*1*

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-3

Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33

Matrix: Solid
Percent Solids: 97.6

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7140		14.2	3.79	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Antimony	0.849	J	1.42	0.255	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Arsenic	6.10		1.07	0.225	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Barium	127		14.2	0.258	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Beryllium	0.438		0.356	0.0384	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Cadmium	0.256	J	0.356	0.0342	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Calcium	14400		356	25.9	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Chromium	12.0		0.711	0.244	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Cobalt	8.00		0.711	0.0526	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Copper	8.50		1.78	0.168	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Iron	11400		14.2	4.94	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Lead	37.3		0.711	0.201	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Magnesium	1460		356	10.9	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Manganese	614		1.07	0.184	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Nickel	11.2		2.85	0.353	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Potassium	650		356	25.4	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Selenium	0.444	J	1.42	0.334	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Silver	ND		0.711	0.0576	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Sodium	ND		356	101	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Thallium	ND		1.42	0.284	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Vanadium	23.6		3.56	0.585	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1
Zinc	44.2		3.56	0.973	mg/Kg	☼	11/22/23 10:00	11/27/23 10:31	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0303	J	0.118	0.0213	mg/Kg	☼	11/22/23 11:00	11/27/23 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	97.6		0.1	0.1	%			11/21/23 13:44	1
Percent Moisture (EPA Moisture)	2.4		0.1	0.1	%			11/21/23 13:44	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(20-120)	(25-120)	(26-120)	(46-137)	(10-120)
240-195376-1	DU-13-1	60	54	61	62	64	49
240-195376-2	DU-13-2	55	46	53	53	59	38
240-195376-3	DU-13-3	70	61	70	68	73	52
240-195376-4	DU-14-1	42	36	38	39	50	32
240-195376-5	DU-14-2	54	46	55	52	58	41
240-195376-6	DU-14-3	50	46	50	51	54	24
240-195376-7	DU-15-1	54	47	54	52	59	50
240-195376-8	DU-15-2	54	45	54	51	57	37
240-195376-9	DU-15-3	17 S1-	15 S1-	15 S1-	15 S1-	18 S1-	13
240-195376-9 - RE	DU-15-3	40	32	33	35	40 S1-	29
240-195376-10	DU-16-1	40	34	38	38	44 S1-	38
240-195376-11	DU-16-2	35	31	34	34	38 S1-	27
240-195376-12	DU-16-3	37	33	37	36	41 S1-	29
240-195376-13	DU-17-1	34	30	30	32	41 S1-	35
240-195376-14	DU-17-2	43	36	42	40	46	35
240-195376-15	DU-17-3	44	39	44	42	49	34
240-195376-16	DU-18-1	48	40	46	46	51	42
240-195376-17	DU-18-2	53	43	49	50	57	49
240-195376-18	DU-18-3	47	44	45	51	55	43
240-195376-19	DU-19-1	47	42	48	46	54	39
240-195376-20	DU-19-2	49	45	50	49	55	38
240-195376-21	DU-19-3	56	50	54	52	59	47
240-195376-22	DU-20-1	60	56	62	59	65	49
240-195376-23	DU-20-2	44	42	45	44	52	41
240-195376-24	DU-20-3	48	44	49	48	57	18
240-195376-25	DU-21-1	62	55	61	61	67	62
240-195376-26	DU-21-2	38	34	39	37	42 S1-	34
240-195376-27	DU-21-3	54	48	55	53	61	38
240-195376-28	DU-22-1	34	25	30	31	37 S1-	25
240-195376-29	DU-22-2	38	32	35	35	41 S1-	21
240-195376-30	DU-22-3	38	35	35	35	38 S1-	29
240-195376-31	DU-23-1	12 S1-	11 S1-	12 S1-	12 S1-	14 S1-	7 S1-
240-195376-31 - RE	DU-23-1	39	36	34	38	49	41
240-195376-32	DU-23-2	23 S1-	22	24 S1-	25 S1-	26 S1-	16
240-195376-32 - RE	DU-23-2	35	31	31	34	44 S1-	40
240-195376-33	DU-23-3	25 S1-	25	26	26	28 S1-	14
240-195376-33 - RE	DU-23-3	36	35	33	36	46	32
LCS 240-595386/2-A	Lab Control Sample	81	74	85	81	84	81
LCS 240-595386/2-A	Lab Control Sample	61	61	62	64	69	67
LCS 240-595418/2-A	Lab Control Sample	73	70	79	76	78	77
LCS 240-595595/2-A	Lab Control Sample	78	83	86	88	86	94
LCS 240-596145/2-A	Lab Control Sample	79	81	73	80	97	105
LCS 240-596840/2-A	Lab Control Sample	76	62	67	71	73	75
MB 240-595386/1-A	Method Blank	64	62	64	64	70	44
MB 240-595386/1-A	Method Blank	55	53	52	58	64	36
MB 240-595418/1-A	Method Blank	67	68	69	71	70	62
MB 240-595595/1-A	Method Blank	61	67	64	70	66	60
MB 240-596145/1-A	Method Blank	73	79	71	79	93	40
MB 240-596840/1-A	Method Blank	68	62	57	67	69	55

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-595386/1-A
Matrix: Solid
Analysis Batch: 596252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Acetophenone	ND		100	25.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Anthracene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Atrazine	ND		330	69.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Caprolactam	ND		330	69.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Carbazole	ND		100	27.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Chrysene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Fluorene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Isophorone	ND		100	26.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595386/1-A
Matrix: Solid
Analysis Batch: 596252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Pentachlorophenol	ND		270	105	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Phenol	ND		100	38.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
Pyrene	ND		40.0	16.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/21/23 08:50	12/01/23 10:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*34 - 120*	*11/21/23 08:50*	*12/01/23 10:45*	*1*
2-Fluorophenol (Surr)	*62*		*20 - 120*	*11/21/23 08:50*	*12/01/23 10:45*	*1*
Nitrobenzene-d5 (Surr)	*64*		*25 - 120*	*11/21/23 08:50*	*12/01/23 10:45*	*1*
Phenol-d5 (Surr)	*64*		*26 - 120*	*11/21/23 08:50*	*12/01/23 10:45*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 137*	*11/21/23 08:50*	*12/01/23 10:45*	*1*
2,4,6-Tribromophenol (Surr)	*44*		*10 - 120*	*11/21/23 08:50*	*12/01/23 10:45*	*1*

Lab Sample ID: MB 240-595386/1-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Acetophenone	ND		100	25.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Anthracene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Atrazine	ND		330	69.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595386/1-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Caprolactam	ND		330	69.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Carbazole	ND		100	27.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Chrysene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Fluorene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Isophorone	ND		100	26.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Pentachlorophenol	ND		270	105	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Phenol	ND		100	38.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
Pyrene	ND		40.0	16.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/21/23 08:50	12/06/23 15:27	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595386/1-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595386

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	55		34 - 120	11/21/23 08:50	12/06/23 15:27	1
2-Fluorophenol (Surr)	53		20 - 120	11/21/23 08:50	12/06/23 15:27	1
Nitrobenzene-d5 (Surr)	52		25 - 120	11/21/23 08:50	12/06/23 15:27	1
Phenol-d5 (Surr)	58		26 - 120	11/21/23 08:50	12/06/23 15:27	1
Terphenyl-d14 (Surr)	64		46 - 137	11/21/23 08:50	12/06/23 15:27	1
2,4,6-Tribromophenol (Surr)	36		10 - 120	11/21/23 08:50	12/06/23 15:27	1

Lab Sample ID: LCS 240-595386/2-A
Matrix: Solid
Analysis Batch: 596252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1119		ug/Kg		84	52 - 120
Acenaphthylene	1330	1084		ug/Kg		81	52 - 120
Acetophenone	1330	1060		ug/Kg		80	47 - 120
Anthracene	1330	1136		ug/Kg		85	64 - 120
Atrazine	2670	2621		ug/Kg		98	71 - 125
Benzaldehyde	2670	2091		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1161		ug/Kg		87	70 - 120
Benzo[a]pyrene	1330	1047		ug/Kg		79	63 - 125
Benzo[b]fluoranthene	1330	1212		ug/Kg		91	64 - 121
Benzo[g,h,i]perylene	1330	1141		ug/Kg		86	62 - 120
Benzo[k]fluoranthene	1330	1198		ug/Kg		90	63 - 128
1,1'-Biphenyl	1330	1079		ug/Kg		81	50 - 120
Bis(2-chloroethoxy)methane	1330	1106		ug/Kg		83	50 - 120
Bis(2-chloroethyl)ether	1330	981.2		ug/Kg		74	42 - 120
bis (2-chloroisopropyl) ether	1330	1073		ug/Kg		80	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1092		ug/Kg		82	63 - 133
4-Bromophenyl phenyl ether	1330	1146		ug/Kg		86	65 - 120
Butyl benzyl phthalate	1330	1164		ug/Kg		87	66 - 127
Caprolactam	2670	2110		ug/Kg		79	67 - 120
Carbazole	1330	1198		ug/Kg		90	61 - 129
4-Chloroaniline	1330	634.6		ug/Kg		48	29 - 120
4-Chloro-3-methylphenol	1330	1215		ug/Kg		91	51 - 120
2-Chloronaphthalene	1330	1084		ug/Kg		81	51 - 120
2-Chlorophenol	1330	1023		ug/Kg		77	47 - 120
4-Chlorophenyl phenyl ether	1330	1153		ug/Kg		86	59 - 120
Chrysene	1330	1149		ug/Kg		86	67 - 120
Dibenz(a,h)anthracene	1330	1188		ug/Kg		89	62 - 120
Dibenzofuran	1330	1103		ug/Kg		83	55 - 120
3,3'-Dichlorobenzidine	2670	1826		ug/Kg		68	27 - 199
2,4-Dichlorophenol	1330	1140		ug/Kg		85	50 - 120
Diethyl phthalate	1330	1185		ug/Kg		89	61 - 120
2,4-Dimethylphenol	1330	945.5		ug/Kg		71	24 - 120
Dimethyl phthalate	1330	1166		ug/Kg		87	64 - 120
Di-n-butyl phthalate	1330	1256		ug/Kg		94	70 - 129
4,6-Dinitro-2-methylphenol	2670	1433		ug/Kg		54	10 - 120
2,4-Dinitrophenol	2670	844.4		ug/Kg		32	10 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595386/2-A
Matrix: Solid
Analysis Batch: 596252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	1330	1241		ug/Kg		93	64 - 120
2,6-Dinitrotoluene	1330	1230		ug/Kg		92	62 - 120
Di-n-octyl phthalate	1330	1144		ug/Kg		86	64 - 129
Fluoranthene	1330	1206		ug/Kg		90	71 - 124
Fluorene	1330	1135		ug/Kg		85	58 - 120
Hexachlorobenzene	1330	1032		ug/Kg		77	59 - 120
Hexachlorobutadiene	1330	1161		ug/Kg		87	45 - 120
Hexachlorocyclopentadiene	1330	427.4		ug/Kg		32	10 - 120
Hexachloroethane	1330	995.0		ug/Kg		75	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1054		ug/Kg		79	65 - 122
Isophorone	1330	1165		ug/Kg		87	50 - 120
2-Methylnaphthalene	1330	1102		ug/Kg		83	38 - 120
2-Methylphenol	1330	1023		ug/Kg		77	45 - 120
3 & 4 Methylphenol	1330	1047		ug/Kg		79	49 - 120
Naphthalene	1330	1048		ug/Kg		79	34 - 120
2-Nitroaniline	1330	1319		ug/Kg		99	57 - 120
3-Nitroaniline	1330	904.8		ug/Kg		68	41 - 120
4-Nitroaniline	1330	1199		ug/Kg		90	48 - 128
Nitrobenzene	1330	1168		ug/Kg		88	48 - 120
2-Nitrophenol	1330	1173		ug/Kg		88	51 - 120
4-Nitrophenol	2670	2539		ug/Kg		95	43 - 120
N-Nitrosodi-n-propylamine	1330	1127		ug/Kg		85	48 - 120
N-Nitrosodiphenylamine	1330	1122		ug/Kg		84	64 - 120
Pentachlorophenol	2670	1233		ug/Kg		46	10 - 120
Phenanthrene	1330	1105		ug/Kg		83	60 - 120
Phenol	1330	1027		ug/Kg		77	48 - 120
Pyrene	1330	1188		ug/Kg		89	67 - 120
2,4,5-Trichlorophenol	1330	1178		ug/Kg		88	50 - 120
2,4,6-Trichlorophenol	1330	1198		ug/Kg		90	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*81*		*34 - 120*
2-Fluorophenol (Surr)	*74*		*20 - 120*
Nitrobenzene-d5 (Surr)	*85*		*25 - 120*
Phenol-d5 (Surr)	*81*		*26 - 120*
Terphenyl-d14 (Surr)	*84*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*81*		*10 - 120*

Lab Sample ID: LCS 240-595386/2-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	862.8		ug/Kg		65	52 - 120
Acenaphthylene	1330	864.5		ug/Kg		65	52 - 120
Acetophenone	1330	854.3		ug/Kg		64	47 - 120
Anthracene	1330	983.8		ug/Kg		74	64 - 120
Atrazine	2670	2039		ug/Kg		76	71 - 125

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595386/2-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzaldehyde	2670	1619		ug/Kg		61	42 - 120
Benzo[a]anthracene	1330	979.5		ug/Kg		73	70 - 120
Benzo[a]pyrene	1330	990.1		ug/Kg		74	63 - 125
Benzo[b]fluoranthene	1330	1038		ug/Kg		78	64 - 121
Benzo[g,h,i]perylene	1330	1014		ug/Kg		76	62 - 120
Benzo[k]fluoranthene	1330	940.2		ug/Kg		71	63 - 128
1,1'-Biphenyl	1330	806.5		ug/Kg		60	50 - 120
Bis(2-chloroethoxy)methane	1330	863.5		ug/Kg		65	50 - 120
Bis(2-chloroethyl)ether	1330	795.2		ug/Kg		60	42 - 120
bis (2-chloroisopropyl) ether	1330	749.6		ug/Kg		56	38 - 120
Bis(2-ethylhexyl) phthalate	1330	963.3		ug/Kg		72	63 - 133
4-Bromophenyl phenyl ether	1330	955.2		ug/Kg		72	65 - 120
Butyl benzyl phthalate	1330	991.1		ug/Kg		74	66 - 127
Caprolactam	2670	1847		ug/Kg		69	67 - 120
Carbazole	1330	997.7		ug/Kg		75	61 - 129
4-Chloroaniline	1330	493.9		ug/Kg		37	29 - 120
4-Chloro-3-methylphenol	1330	917.7		ug/Kg		69	51 - 120
2-Chloronaphthalene	1330	888.6		ug/Kg		67	51 - 120
2-Chlorophenol	1330	879.1		ug/Kg		66	47 - 120
4-Chlorophenyl phenyl ether	1330	889.4		ug/Kg		67	59 - 120
Chrysene	1330	912.2		ug/Kg		68	67 - 120
Dibenz(a,h)anthracene	1330	900.8		ug/Kg		68	62 - 120
Dibenzofuran	1330	852.9		ug/Kg		64	55 - 120
3,3'-Dichlorobenzidine	2670	1641		ug/Kg		62	27 - 199
2,4-Dichlorophenol	1330	927.2		ug/Kg		70	50 - 120
Diethyl phthalate	1330	932.5		ug/Kg		70	61 - 120
2,4-Dimethylphenol	1330	735.4		ug/Kg		55	24 - 120
Dimethyl phthalate	1330	916.9		ug/Kg		69	64 - 120
Di-n-butyl phthalate	1330	996.9		ug/Kg		75	70 - 129
4,6-Dinitro-2-methylphenol	2670	1022		ug/Kg		38	10 - 120
2,4-Dinitrophenol	2670	577.3		ug/Kg		22	10 - 120
2,4-Dinitrotoluene	1330	877.0		ug/Kg		66	64 - 120
2,6-Dinitrotoluene	1330	954.3		ug/Kg		72	62 - 120
Di-n-octyl phthalate	1330	969.2		ug/Kg		73	64 - 129
Fluoranthene	1330	999.1		ug/Kg		75	71 - 124
Fluorene	1330	886.5		ug/Kg		66	58 - 120
Hexachlorobenzene	1330	947.1		ug/Kg		71	59 - 120
Hexachlorobutadiene	1330	857.4		ug/Kg		64	45 - 120
Hexachlorocyclopentadiene	1330	402.3		ug/Kg		30	10 - 120
Hexachloroethane	1330	810.1		ug/Kg		61	39 - 120
Indeno[1,2,3-cd]pyrene	1330	917.3		ug/Kg		69	65 - 122
Isophorone	1330	903.5		ug/Kg		68	50 - 120
2-Methylnaphthalene	1330	893.2		ug/Kg		67	38 - 120
2-Methylphenol	1330	855.1		ug/Kg		64	45 - 120
3 & 4 Methylphenol	1330	853.4		ug/Kg		64	49 - 120
Naphthalene	1330	836.7		ug/Kg		63	34 - 120
2-Nitroaniline	1330	824.6		ug/Kg		62	57 - 120
3-Nitroaniline	1330	647.9		ug/Kg		49	41 - 120
4-Nitroaniline	1330	802.3		ug/Kg		60	48 - 128

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595386/2-A
Matrix: Solid
Analysis Batch: 596668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrobenzene	1330	833.5		ug/Kg		63	48 - 120
2-Nitrophenol	1330	881.6		ug/Kg		66	51 - 120
4-Nitrophenol	2670	1531		ug/Kg		57	43 - 120
N-Nitrosodi-n-propylamine	1330	855.4		ug/Kg		64	48 - 120
N-Nitrosodiphenylamine	1330	942.4		ug/Kg		71	64 - 120
Pentachlorophenol	2670	1433		ug/Kg		54	10 - 120
Phenanthrene	1330	901.4		ug/Kg		68	60 - 120
Phenol	1330	845.6		ug/Kg		63	48 - 120
Pyrene	1330	971.5		ug/Kg		73	67 - 120
2,4,5-Trichlorophenol	1330	856.4		ug/Kg		64	50 - 120
2,4,6-Trichlorophenol	1330	910.4		ug/Kg		68	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*61*		*34 - 120*
2-Fluorophenol (Surr)	*61*		*20 - 120*
Nitrobenzene-d5 (Surr)	*62*		*25 - 120*
Phenol-d5 (Surr)	*64*		*26 - 120*
Terphenyl-d14 (Surr)	*69*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*67*		*10 - 120*

Lab Sample ID: MB 240-595418/1-A
Matrix: Solid
Analysis Batch: 595743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Acetophenone	ND		100	25.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Anthracene	ND		40.0	12.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Atrazine	ND		330	69.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Caprolactam	ND		330	69.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Carbazole	ND		100	27.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595418/1-A
Matrix: Solid
Analysis Batch: 595743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		100	26.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Chrysene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Fluorene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Isophorone	ND		100	26.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Pentachlorophenol	ND		270	105	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Phenol	ND		100	38.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
Pyrene	ND		40.0	16.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/21/23 09:59	11/27/23 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*67*		*34 - 120*	*11/21/23 09:59*	*11/27/23 11:03*	*1*
2-Fluorophenol (Surr)	*68*		*20 - 120*	*11/21/23 09:59*	*11/27/23 11:03*	*1*
Nitrobenzene-d5 (Surr)	*69*		*25 - 120*	*11/21/23 09:59*	*11/27/23 11:03*	*1*
Phenol-d5 (Surr)	*71*		*26 - 120*	*11/21/23 09:59*	*11/27/23 11:03*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595418/1-A
Matrix: Solid
Analysis Batch: 595743

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595418

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	70		46 - 137	11/21/23 09:59	11/27/23 11:03	1
2,4,6-Tribromophenol (Surr)	62		10 - 120	11/21/23 09:59	11/27/23 11:03	1

Lab Sample ID: LCS 240-595418/2-A
Matrix: Solid
Analysis Batch: 595743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1023		ug/Kg		77	52 - 120
Acenaphthylene	1330	982.1		ug/Kg		74	52 - 120
Acetophenone	1330	1041		ug/Kg		78	47 - 120
Anthracene	1330	1088		ug/Kg		82	64 - 120
Atrazine	2670	2368		ug/Kg		89	71 - 125
Benzaldehyde	2670	2067		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1089		ug/Kg		82	70 - 120
Benzo[a]pyrene	1330	950.1		ug/Kg		71	63 - 125
Benzo[b]fluoranthene	1330	1059		ug/Kg		79	64 - 121
Benzo[g,h,i]perylene	1330	1058		ug/Kg		79	62 - 120
Benzo[k]fluoranthene	1330	1118		ug/Kg		84	63 - 128
1,1'-Biphenyl	1330	991.3		ug/Kg		74	50 - 120
Bis(2-chloroethoxy)methane	1330	1050		ug/Kg		79	50 - 120
Bis(2-chloroethyl)ether	1330	953.1		ug/Kg		71	42 - 120
bis (2-chloroisopropyl) ether	1330	1074		ug/Kg		81	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1058		ug/Kg		79	63 - 133
4-Bromophenyl phenyl ether	1330	1046		ug/Kg		78	65 - 120
Butyl benzyl phthalate	1330	1078		ug/Kg		81	66 - 127
Caprolactam	2670	2108		ug/Kg		79	67 - 120
Carbazole	1330	1105		ug/Kg		83	61 - 129
4-Chloroaniline	1330	568.1		ug/Kg		43	29 - 120
4-Chloro-3-methylphenol	1330	1026		ug/Kg		77	51 - 120
2-Chloronaphthalene	1330	990.9		ug/Kg		74	51 - 120
2-Chlorophenol	1330	961.7		ug/Kg		72	47 - 120
4-Chlorophenyl phenyl ether	1330	1039		ug/Kg		78	59 - 120
Chrysene	1330	1053		ug/Kg		79	67 - 120
Dibenz(a,h)anthracene	1330	1106		ug/Kg		83	62 - 120
Dibenzofuran	1330	1013		ug/Kg		76	55 - 120
3,3'-Dichlorobenzidine	2670	1776		ug/Kg		67	27 - 199
2,4-Dichlorophenol	1330	984.3		ug/Kg		74	50 - 120
Diethyl phthalate	1330	1064		ug/Kg		80	61 - 120
2,4-Dimethylphenol	1330	752.3		ug/Kg		56	24 - 120
Dimethyl phthalate	1330	1047		ug/Kg		79	64 - 120
Di-n-butyl phthalate	1330	1142		ug/Kg		86	70 - 129
4,6-Dinitro-2-methylphenol	2670	1269		ug/Kg		48	10 - 120
2,4-Dinitrophenol	2670	757.2		ug/Kg		28	10 - 120
2,4-Dinitrotoluene	1330	1109		ug/Kg		83	64 - 120
2,6-Dinitrotoluene	1330	1126		ug/Kg		84	62 - 120
Di-n-octyl phthalate	1330	1045		ug/Kg		78	64 - 129
Fluoranthene	1330	1123		ug/Kg		84	71 - 124

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595418/2-A
Matrix: Solid
Analysis Batch: 595743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	1330	1024		ug/Kg		77	58 - 120
Hexachlorobenzene	1330	997.8		ug/Kg		75	59 - 120
Hexachlorobutadiene	1330	1065		ug/Kg		80	45 - 120
Hexachlorocyclopentadiene	1330	596.3		ug/Kg		45	10 - 120
Hexachloroethane	1330	988.6		ug/Kg		74	39 - 120
Indeno[1,2,3-cd]pyrene	1330	971.3		ug/Kg		73	65 - 122
Isophorone	1330	1105		ug/Kg		83	50 - 120
2-Methylnaphthalene	1330	1045		ug/Kg		78	38 - 120
2-Methylphenol	1330	979.4		ug/Kg		73	45 - 120
3 & 4 Methylphenol	1330	942.9		ug/Kg		71	49 - 120
Naphthalene	1330	983.8		ug/Kg		74	34 - 120
2-Nitroaniline	1330	1213		ug/Kg		91	57 - 120
3-Nitroaniline	1330	814.8		ug/Kg		61	41 - 120
4-Nitroaniline	1330	1070		ug/Kg		80	48 - 128
Nitrobenzene	1330	1108		ug/Kg		83	48 - 120
2-Nitrophenol	1330	1148		ug/Kg		86	51 - 120
4-Nitrophenol	2670	2217		ug/Kg		83	43 - 120
N-Nitrosodi-n-propylamine	1330	1139		ug/Kg		85	48 - 120
N-Nitrosodiphenylamine	1330	1042		ug/Kg		78	64 - 120
Pentachlorophenol	2670	1557		ug/Kg		58	10 - 120
Phenanthrene	1330	1021		ug/Kg		77	60 - 120
Phenol	1330	936.7		ug/Kg		70	48 - 120
Pyrene	1330	1117		ug/Kg		84	67 - 120
2,4,5-Trichlorophenol	1330	1006		ug/Kg		75	50 - 120
2,4,6-Trichlorophenol	1330	1021		ug/Kg		77	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*73*		*34 - 120*
2-Fluorophenol (Surr)	*70*		*20 - 120*
Nitrobenzene-d5 (Surr)	*79*		*25 - 120*
Phenol-d5 (Surr)	*76*		*26 - 120*
Terphenyl-d14 (Surr)	*78*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*77*		*10 - 120*

Lab Sample ID: MB 240-595595/1-A
Matrix: Solid
Analysis Batch: 595725

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Acetophenone	ND		100	25.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Anthracene	ND		40.0	12.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Atrazine	ND		330	69.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595595/1-A
Matrix: Solid
Analysis Batch: 595725

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Caprolactam	ND		330	69.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Carbazole	ND		100	27.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Chrysene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Fluorene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Isophorone	ND		100	26.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595595/1-A
Matrix: Solid
Analysis Batch: 595725

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Pentachlorophenol	ND		270	105	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Phenol	ND		100	38.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
Pyrene	ND		40.0	16.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/22/23 10:00	11/27/23 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*34 - 120*	*11/22/23 10:00*	*11/27/23 09:33*	*1*
2-Fluorophenol (Surr)	*67*		*20 - 120*	*11/22/23 10:00*	*11/27/23 09:33*	*1*
Nitrobenzene-d5 (Surr)	*64*		*25 - 120*	*11/22/23 10:00*	*11/27/23 09:33*	*1*
Phenol-d5 (Surr)	*70*		*26 - 120*	*11/22/23 10:00*	*11/27/23 09:33*	*1*
Terphenyl-d14 (Surr)	*66*		*46 - 137*	*11/22/23 10:00*	*11/27/23 09:33*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*10 - 120*	*11/22/23 10:00*	*11/27/23 09:33*	*1*

Lab Sample ID: LCS 240-595595/2-A
Matrix: Solid
Analysis Batch: 595865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	970.3		ug/Kg		73	52 - 120
Acenaphthylene	1330	958.7		ug/Kg		72	52 - 120
Acetophenone	1330	1016		ug/Kg		76	47 - 120
Anthracene	1330	1085		ug/Kg		81	64 - 120
Atrazine	2670	2623		ug/Kg		98	71 - 125
Benzaldehyde	2670	2252		ug/Kg		84	42 - 120
Benzo[a]anthracene	1330	1080		ug/Kg		81	70 - 120
Benzo[a]pyrene	1330	978.8		ug/Kg		73	63 - 125
Benzo[b]fluoranthene	1330	1118		ug/Kg		84	64 - 121
Benzo[g,h,i]perylene	1330	1104		ug/Kg		83	62 - 120
Benzo[k]fluoranthene	1330	1039		ug/Kg		78	63 - 128
1,1'-Biphenyl	1330	965.9		ug/Kg		72	50 - 120
Bis(2-chloroethoxy)methane	1330	993.7		ug/Kg		75	50 - 120
Bis(2-chloroethyl)ether	1330	900.2		ug/Kg		68	42 - 120
bis (2-chloroisopropyl) ether	1330	1025		ug/Kg		77	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1049		ug/Kg		79	63 - 133
4-Bromophenyl phenyl ether	1330	1052		ug/Kg		79	65 - 120
Butyl benzyl phthalate	1330	1046		ug/Kg		78	66 - 127
Caprolactam	2670	2293		ug/Kg		86	67 - 120
Carbazole	1330	1196		ug/Kg		90	61 - 129
4-Chloroaniline	1330	544.8		ug/Kg		41	29 - 120
4-Chloro-3-methylphenol	1330	1121		ug/Kg		84	51 - 120
2-Chloronaphthalene	1330	976.1		ug/Kg		73	51 - 120
2-Chlorophenol	1330	979.9		ug/Kg		73	47 - 120
4-Chlorophenyl phenyl ether	1330	1013		ug/Kg		76	59 - 120
Chrysene	1330	1009		ug/Kg		76	67 - 120
Dibenz(a,h)anthracene	1330	1022		ug/Kg		77	62 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595595/2-A
Matrix: Solid
Analysis Batch: 595865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibenzofuran	1330	966.8		ug/Kg		73	55 - 120
3,3'-Dichlorobenzidine	2670	1759		ug/Kg		66	27 - 199
2,4-Dichlorophenol	1330	983.1		ug/Kg		74	50 - 120
Diethyl phthalate	1330	1106		ug/Kg		83	61 - 120
2,4-Dimethylphenol	1330	791.1		ug/Kg		59	24 - 120
Dimethyl phthalate	1330	1030		ug/Kg		77	64 - 120
Di-n-butyl phthalate	1330	1072		ug/Kg		80	70 - 129
4,6-Dinitro-2-methylphenol	2670	1250		ug/Kg		47	10 - 120
2,4-Dinitrophenol	2670	739.9		ug/Kg		28	10 - 120
2,4-Dinitrotoluene	1330	1035		ug/Kg		78	64 - 120
2,6-Dinitrotoluene	1330	1019		ug/Kg		76	62 - 120
Di-n-octyl phthalate	1330	1030		ug/Kg		77	64 - 129
Fluoranthene	1330	1053		ug/Kg		79	71 - 124
Fluorene	1330	1010		ug/Kg		76	58 - 120
Hexachlorobenzene	1330	1079		ug/Kg		81	59 - 120
Hexachlorobutadiene	1330	973.5		ug/Kg		73	45 - 120
Hexachlorocyclopentadiene	1330	398.3		ug/Kg		30	10 - 120
Hexachloroethane	1330	947.0		ug/Kg		71	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1044		ug/Kg		78	65 - 122
Isophorone	1330	1047		ug/Kg		79	50 - 120
2-Methylnaphthalene	1330	979.7		ug/Kg		73	38 - 120
2-Methylphenol	1330	1018		ug/Kg		76	45 - 120
3 & 4 Methylphenol	1330	995.9		ug/Kg		75	49 - 120
Naphthalene	1330	912.9		ug/Kg		68	34 - 120
2-Nitroaniline	1330	1160		ug/Kg		87	57 - 120
3-Nitroaniline	1330	822.0		ug/Kg		62	41 - 120
4-Nitroaniline	1330	1097		ug/Kg		82	48 - 128
Nitrobenzene	1330	1069		ug/Kg		80	48 - 120
2-Nitrophenol	1330	961.8		ug/Kg		72	51 - 120
4-Nitrophenol	2670	2424		ug/Kg		91	43 - 120
N-Nitrosodi-n-propylamine	1330	1145		ug/Kg		86	48 - 120
N-Nitrosodiphenylamine	1330	1067		ug/Kg		80	64 - 120
Pentachlorophenol	2670	1955		ug/Kg		73	10 - 120
Phenanthrene	1330	1002		ug/Kg		75	60 - 120
Phenol	1330	1009		ug/Kg		76	48 - 120
Pyrene	1330	1027		ug/Kg		77	67 - 120
2,4,5-Trichlorophenol	1330	1000		ug/Kg		75	50 - 120
2,4,6-Trichlorophenol	1330	1051		ug/Kg		79	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*78*		*34 - 120*
2-Fluorophenol (Surr)	*83*		*20 - 120*
Nitrobenzene-d5 (Surr)	*86*		*25 - 120*
Phenol-d5 (Surr)	*88*		*26 - 120*
Terphenyl-d14 (Surr)	*86*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*94*		*10 - 120*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-596145/1-A
Matrix: Solid
Analysis Batch: 596471

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Acetophenone	ND		100	25.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Anthracene	ND		40.0	12.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Atrazine	ND		330	69.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Caprolactam	ND		330	69.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Carbazole	ND		100	27.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Chrysene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Fluorene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Isophorone	ND		100	26.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-596145/1-A
Matrix: Solid
Analysis Batch: 596471

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Pentachlorophenol	ND		270	105	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Phenol	ND		100	38.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
Pyrene	ND		40.0	16.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/30/23 08:21	12/04/23 15:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*73*		*34 - 120*	*11/30/23 08:21*	*12/04/23 15:54*	*1*
2-Fluorophenol (Surr)	*79*		*20 - 120*	*11/30/23 08:21*	*12/04/23 15:54*	*1*
Nitrobenzene-d5 (Surr)	*71*		*25 - 120*	*11/30/23 08:21*	*12/04/23 15:54*	*1*
Phenol-d5 (Surr)	*79*		*26 - 120*	*11/30/23 08:21*	*12/04/23 15:54*	*1*
Terphenyl-d14 (Surr)	*93*		*46 - 137*	*11/30/23 08:21*	*12/04/23 15:54*	*1*
2,4,6-Tribromophenol (Surr)	*40*		*10 - 120*	*11/30/23 08:21*	*12/04/23 15:54*	*1*

Lab Sample ID: LCS 240-596145/2-A
Matrix: Solid
Analysis Batch: 596471

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1151		ug/Kg		86	52 - 120
Acenaphthylene	1330	1079		ug/Kg		81	52 - 120
Acetophenone	1330	1110		ug/Kg		83	47 - 120
Anthracene	1330	1238		ug/Kg		93	64 - 120
Atrazine	2670	2907		ug/Kg		109	71 - 125
Benzaldehyde	2670	2088		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1158		ug/Kg		87	70 - 120
Benzo[a]pyrene	1330	1052		ug/Kg		79	63 - 125
Benzo[b]fluoranthene	1330	1194		ug/Kg		90	64 - 121
Benzo[g,h,i]perylene	1330	1349		ug/Kg		101	62 - 120
Benzo[k]fluoranthene	1330	1239		ug/Kg		93	63 - 128
1,1'-Biphenyl	1330	1094		ug/Kg		82	50 - 120
Bis(2-chloroethoxy)methane	1330	914.3		ug/Kg		69	50 - 120
Bis(2-chloroethyl)ether	1330	910.4		ug/Kg		68	42 - 120
bis (2-chloroisopropyl) ether	1330	878.1		ug/Kg		66	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1203		ug/Kg		90	63 - 133
4-Bromophenyl phenyl ether	1330	1340		ug/Kg		101	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-596145/2-A
Matrix: Solid
Analysis Batch: 596471

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butyl benzyl phthalate	1330	1200		ug/Kg		90	66 - 127
Caprolactam	2670	2053		ug/Kg		77	67 - 120
Carbazole	1330	1272		ug/Kg		95	61 - 129
4-Chloroaniline	1330	577.4		ug/Kg		43	29 - 120
4-Chloro-3-methylphenol	1330	1154		ug/Kg		87	51 - 120
2-Chloronaphthalene	1330	1094		ug/Kg		82	51 - 120
2-Chlorophenol	1330	1136		ug/Kg		85	47 - 120
4-Chlorophenyl phenyl ether	1330	1004		ug/Kg		75	59 - 120
Chrysene	1330	1159		ug/Kg		87	67 - 120
Dibenz(a,h)anthracene	1330	1310		ug/Kg		98	62 - 120
Dibenzofuran	1330	1040		ug/Kg		78	55 - 120
3,3'-Dichlorobenzidine	2670	1811		ug/Kg		68	27 - 199
2,4-Dichlorophenol	1330	1013		ug/Kg		76	50 - 120
Diethyl phthalate	1330	1320		ug/Kg		99	61 - 120
2,4-Dimethylphenol	1330	877.1		ug/Kg		66	24 - 120
Dimethyl phthalate	1330	1211		ug/Kg		91	64 - 120
Di-n-butyl phthalate	1330	1430		ug/Kg		107	70 - 129
4,6-Dinitro-2-methylphenol	2670	1135		ug/Kg		43	10 - 120
2,4-Dinitrophenol	2670	539.8		ug/Kg		20	10 - 120
2,4-Dinitrotoluene	1330	1296		ug/Kg		97	64 - 120
2,6-Dinitrotoluene	1330	1232		ug/Kg		92	62 - 120
Di-n-octyl phthalate	1330	1078		ug/Kg		81	64 - 129
Fluoranthene	1330	1197		ug/Kg		90	71 - 124
Fluorene	1330	1099		ug/Kg		82	58 - 120
Hexachlorobenzene	1330	1361		ug/Kg		102	59 - 120
Hexachlorobutadiene	1330	1004		ug/Kg		75	45 - 120
Hexachlorocyclopentadiene	1330	489.6		ug/Kg		37	10 - 120
Hexachloroethane	1330	1038		ug/Kg		78	39 - 120
Indeno[1,2,3-cd]pyrene	1330	1210		ug/Kg		91	65 - 122
Isophorone	1330	1003		ug/Kg		75	50 - 120
2-Methylnaphthalene	1330	1089		ug/Kg		82	38 - 120
2-Methylphenol	1330	1128		ug/Kg		85	45 - 120
3 & 4 Methylphenol	1330	1079		ug/Kg		81	49 - 120
Naphthalene	1330	1004		ug/Kg		75	34 - 120
2-Nitroaniline	1330	1205		ug/Kg		90	57 - 120
3-Nitroaniline	1330	928.8		ug/Kg		70	41 - 120
4-Nitroaniline	1330	1292		ug/Kg		97	48 - 128
Nitrobenzene	1330	975.9		ug/Kg		73	48 - 120
2-Nitrophenol	1330	1160		ug/Kg		87	51 - 120
4-Nitrophenol	2670	2916		ug/Kg		109	43 - 120
N-Nitrosodi-n-propylamine	1330	1114		ug/Kg		84	48 - 120
N-Nitrosodiphenylamine	1330	1223		ug/Kg		92	64 - 120
Pentachlorophenol	2670	1567		ug/Kg		59	10 - 120
Phenanthrene	1330	1184		ug/Kg		89	60 - 120
Phenol	1330	1059		ug/Kg		79	48 - 120
Pyrene	1330	1078		ug/Kg		81	67 - 120
2,4,5-Trichlorophenol	1330	1060		ug/Kg		79	50 - 120
2,4,6-Trichlorophenol	1330	1037		ug/Kg		78	50 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-596145/2-A
Matrix: Solid
Analysis Batch: 596471

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	79		34 - 120
2-Fluorophenol (Surr)	81		20 - 120
Nitrobenzene-d5 (Surr)	73		25 - 120
Phenol-d5 (Surr)	80		26 - 120
Terphenyl-d14 (Surr)	97		46 - 137
2,4,6-Tribromophenol (Surr)	105		10 - 120

Lab Sample ID: MB 240-596840/1-A
Matrix: Solid
Analysis Batch: 596957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596840

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Acetophenone	ND		100	25.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Anthracene	ND		40.0	12.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Atrazine	ND		330	69.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzaldehyde	ND		330	56.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Caprolactam	ND		330	69.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Carbazole	ND		100	27.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Chloroaniline	ND		150	16.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Chlorophenol	ND		100	26.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Chrysene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Dibenzofuran	ND		100	29.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Diethyl phthalate	ND		150	43.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Di-n-butyl phthalate	33.59	J	150	24.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		12/07/23 09:20	12/08/23 10:22	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-596840/1-A
Matrix: Solid
Analysis Batch: 596957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596840

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Fluoranthene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Fluorene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Hexachloroethane	ND		100	32.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Isophorone	ND		100	26.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Methylphenol	ND		200	41.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Naphthalene	ND		40.0	13.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Nitroaniline	ND		200	38.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
3-Nitroaniline	ND		200	35.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Nitroaniline	ND		200	26.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Nitrobenzene	ND		100	22.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2-Nitrophenol	ND		100	35.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
4-Nitrophenol	ND		330	90.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Pentachlorophenol	ND		270	105	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Phenanthrene	ND		40.0	13.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Phenol	ND		100	38.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
Pyrene	ND		40.0	16.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		12/07/23 09:20	12/08/23 10:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*68*		*34 - 120*	*12/07/23 09:20*	*12/08/23 10:22*	*1*
2-Fluorophenol (Surr)	*62*		*20 - 120*	*12/07/23 09:20*	*12/08/23 10:22*	*1*
Nitrobenzene-d5 (Surr)	*57*		*25 - 120*	*12/07/23 09:20*	*12/08/23 10:22*	*1*
Phenol-d5 (Surr)	*67*		*26 - 120*	*12/07/23 09:20*	*12/08/23 10:22*	*1*
Terphenyl-d14 (Surr)	*69*		*46 - 137*	*12/07/23 09:20*	*12/08/23 10:22*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*10 - 120*	*12/07/23 09:20*	*12/08/23 10:22*	*1*

Lab Sample ID: LCS 240-596840/2-A
Matrix: Solid
Analysis Batch: 596957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	910.9		ug/Kg		68	52 - 120
Acenaphthylene	1330	953.7		ug/Kg		72	52 - 120
Acetophenone	1330	902.2		ug/Kg		68	47 - 120
Anthracene	1330	1010		ug/Kg		76	64 - 120
Atrazine	2670	2139		ug/Kg		80	71 - 125

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-596840/2-A
Matrix: Solid
Analysis Batch: 596957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzaldehyde	2670	1763		ug/Kg		66	42 - 120
Benzo[a]anthracene	1330	1033		ug/Kg		77	70 - 120
Benzo[a]pyrene	1330	1047		ug/Kg		78	63 - 125
Benzo[b]fluoranthene	1330	1059		ug/Kg		79	64 - 121
Benzo[g,h,i]perylene	1330	1052		ug/Kg		79	62 - 120
Benzo[k]fluoranthene	1330	981.4		ug/Kg		74	63 - 128
1,1'-Biphenyl	1330	1023		ug/Kg		77	50 - 120
Bis(2-chloroethoxy)methane	1330	923.0		ug/Kg		69	50 - 120
Bis(2-chloroethyl)ether	1330	841.0		ug/Kg		63	42 - 120
bis (2-chloroisopropyl) ether	1330	825.0		ug/Kg		62	38 - 120
Bis(2-ethylhexyl) phthalate	1330	920.9		ug/Kg		69	63 - 133
4-Bromophenyl phenyl ether	1330	957.8		ug/Kg		72	65 - 120
Butyl benzyl phthalate	1330	957.5		ug/Kg		72	66 - 127
Caprolactam	2670	1855		ug/Kg		70	67 - 120
Carbazole	1330	1042		ug/Kg		78	61 - 129
4-Chloroaniline	1330	467.5		ug/Kg		35	29 - 120
4-Chloro-3-methylphenol	1330	1027		ug/Kg		77	51 - 120
2-Chloronaphthalene	1330	1052		ug/Kg		79	51 - 120
2-Chlorophenol	1330	940.7		ug/Kg		71	47 - 120
4-Chlorophenyl phenyl ether	1330	997.2		ug/Kg		75	59 - 120
Chrysene	1330	986.3		ug/Kg		74	67 - 120
Dibenz(a,h)anthracene	1330	933.0		ug/Kg		70	62 - 120
Dibenzofuran	1330	914.7		ug/Kg		69	55 - 120
3,3'-Dichlorobenzidine	2670	1580		ug/Kg		59	27 - 199
2,4-Dichlorophenol	1330	1008		ug/Kg		76	50 - 120
Diethyl phthalate	1330	1089		ug/Kg		82	61 - 120
2,4-Dimethylphenol	1330	768.2		ug/Kg		58	24 - 120
Dimethyl phthalate	1330	1031		ug/Kg		77	64 - 120
Di-n-butyl phthalate	1330	1011		ug/Kg		76	70 - 129
4,6-Dinitro-2-methylphenol	2670	915.5		ug/Kg		34	10 - 120
2,4-Dinitrophenol	2670	607.6		ug/Kg		23	10 - 120
2,4-Dinitrotoluene	1330	1013		ug/Kg		76	64 - 120
2,6-Dinitrotoluene	1330	1076		ug/Kg		81	62 - 120
Di-n-octyl phthalate	1330	904.8		ug/Kg		68	64 - 129
Fluoranthene	1330	1013		ug/Kg		76	71 - 124
Fluorene	1330	1009		ug/Kg		76	58 - 120
Hexachlorobenzene	1330	985.4		ug/Kg		74	59 - 120
Hexachlorobutadiene	1330	915.4		ug/Kg		69	45 - 120
Hexachlorocyclopentadiene	1330	474.6		ug/Kg		36	10 - 120
Hexachloroethane	1330	861.0		ug/Kg		65	39 - 120
Indeno[1,2,3-cd]pyrene	1330	963.0		ug/Kg		72	65 - 122
Isophorone	1330	951.3		ug/Kg		71	50 - 120
2-Methylnaphthalene	1330	935.6		ug/Kg		70	38 - 120
2-Methylphenol	1330	935.9		ug/Kg		70	45 - 120
3 & 4 Methylphenol	1330	912.8		ug/Kg		68	49 - 120
Naphthalene	1330	879.0		ug/Kg		66	34 - 120
2-Nitroaniline	1330	893.4		ug/Kg		67	57 - 120
3-Nitroaniline	1330	775.6		ug/Kg		58	41 - 120
4-Nitroaniline	1330	1035		ug/Kg		78	48 - 128

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-596840/2-A
Matrix: Solid
Analysis Batch: 596957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrobenzene	1330	913.2		ug/Kg		68	48 - 120
2-Nitrophenol	1330	938.5		ug/Kg		70	51 - 120
4-Nitrophenol	2670	2026		ug/Kg		76	43 - 120
N-Nitrosodi-n-propylamine	1330	921.6		ug/Kg		69	48 - 120
N-Nitrosodiphenylamine	1330	940.7		ug/Kg		71	64 - 120
Pentachlorophenol	2670	1566		ug/Kg		59	10 - 120
Phenanthrene	1330	915.1		ug/Kg		69	60 - 120
Phenol	1330	931.5		ug/Kg		70	48 - 120
Pyrene	1330	1001		ug/Kg		75	67 - 120
2,4,5-Trichlorophenol	1330	986.6		ug/Kg		74	50 - 120
2,4,6-Trichlorophenol	1330	1117		ug/Kg		84	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*76*		*34 - 120*
2-Fluorophenol (Surr)	*62*		*20 - 120*
Nitrobenzene-d5 (Surr)	*67*		*25 - 120*
Phenol-d5 (Surr)	*71*		*26 - 120*
Terphenyl-d14 (Surr)	*73*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*75*		*10 - 120*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-595402/1-A
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Antimony	ND		2.00	0.359	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Arsenic	ND		1.50	0.316	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Barium	ND		20.0	0.362	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Calcium	ND		500	36.5	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Chromium	ND		1.00	0.343	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Copper	ND		2.50	0.236	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Iron	ND		20.0	6.94	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Lead	ND		1.00	0.282	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Magnesium	ND		500	15.3	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Manganese	ND		1.50	0.259	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Nickel	ND		4.00	0.496	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Potassium	ND		500	35.8	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Selenium	ND		2.00	0.469	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Silver	0.08984	J	1.00	0.0810	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Sodium	ND		500	142	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Thallium	ND		2.00	0.399	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Vanadium	ND		5.00	0.822	mg/Kg		11/21/23 11:00	11/22/23 12:08	1
Zinc	ND		5.00	1.37	mg/Kg		11/21/23 11:00	11/22/23 12:08	1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 240-595402/2-A
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	972.2		mg/Kg		97	80 - 120
Antimony	100	102.7		mg/Kg		103	80 - 120
Arsenic	200	200.5		mg/Kg		100	80 - 120
Barium	200	192.9		mg/Kg		96	80 - 120
Beryllium	100	98.19		mg/Kg		98	80 - 120
Cadmium	100	98.11		mg/Kg		98	80 - 120
Calcium	5000	4818		mg/Kg		96	80 - 120
Chromium	100	96.43		mg/Kg		96	80 - 120
Cobalt	100	100.0		mg/Kg		100	80 - 120
Copper	100	96.36		mg/Kg		96	80 - 120
Iron	1000	970.5		mg/Kg		97	80 - 120
Lead	100	93.55		mg/Kg		94	80 - 120
Magnesium	5000	4816		mg/Kg		96	80 - 120
Manganese	100	98.04		mg/Kg		98	80 - 120
Nickel	100	100.4		mg/Kg		100	80 - 120
Potassium	5000	4897		mg/Kg		98	80 - 120
Selenium	200	198.3		mg/Kg		99	80 - 120
Silver	10.0	9.909		mg/Kg		99	80 - 120
Sodium	5000	4894		mg/Kg		98	80 - 120
Thallium	200	199.6		mg/Kg		100	80 - 120
Vanadium	100	97.27		mg/Kg		97	80 - 120
Zinc	100	101.1		mg/Kg		101	80 - 120

Lab Sample ID: 240-195376-5 MS
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: DU-14-2
Prep Type: Total/NA
Prep Batch: 595402

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	9490		719	14850	4	mg/Kg	☼	744	75 - 125
Antimony	1.19	J F1	71.9	23.69	F1	mg/Kg	☼	31	75 - 125
Arsenic	8.19		144	135.4		mg/Kg	☼	88	75 - 125
Barium	178		144	293.2		mg/Kg	☼	80	75 - 125
Beryllium	0.585		71.9	63.80		mg/Kg	☼	88	75 - 125
Cadmium	0.330	J	71.9	63.86		mg/Kg	☼	88	75 - 125
Calcium	9320		3600	12260		mg/Kg	☼	82	75 - 125
Chromium	16.0		71.9	82.17		mg/Kg	☼	92	75 - 125
Cobalt	11.6		71.9	85.05		mg/Kg	☼	102	75 - 125
Copper	13.5		71.9	78.40		mg/Kg	☼	90	75 - 125
Iron	14700		719	17260	4	mg/Kg	☼	360	75 - 125
Lead	42.2		71.9	101.8		mg/Kg	☼	83	75 - 125
Magnesium	1820		3600	5282		mg/Kg	☼	96	75 - 125
Nickel	15.7		71.9	91.32		mg/Kg	☼	105	75 - 125
Potassium	799		3600	4298		mg/Kg	☼	97	75 - 125
Selenium	0.997	J	144	124.8		mg/Kg	☼	86	75 - 125
Silver	ND		7.19	6.619		mg/Kg	☼	92	75 - 125
Sodium	ND		3600	3224		mg/Kg	☼	90	75 - 125
Thallium	ND		144	135.8		mg/Kg	☼	94	75 - 125
Vanadium	30.5		71.9	100.8		mg/Kg	☼	98	75 - 125
Zinc	65.4		71.9	147.6		mg/Kg	☼	114	75 - 125

Method: 6010D - Metals (ICP)

Lab Sample ID: 240-195376-5 MS — **Client Sample ID: DU-14-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	1030		71.9	1025	4	mg/Kg	☼	-13	75 - 125

Lab Sample ID: 240-195376-5 MSD — **Client Sample ID: DU-14-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595603 — **Prep Batch: 595402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	9490		700	15560	4	mg/Kg	☼	867	75 - 125	5	20
Antimony	1.19	J F1	70.0	23.90	F1	mg/Kg	☼	32	75 - 125	1	20
Arsenic	8.19		140	136.6		mg/Kg	☼	92	75 - 125	1	20
Barium	178		140	311.6		mg/Kg	☼	95	75 - 125	6	20
Beryllium	0.585		70.0	64.07		mg/Kg	☼	91	75 - 125	0	20
Cadmium	0.330	J	70.0	63.80		mg/Kg	☼	91	75 - 125	0	20
Calcium	9320		3500	12630		mg/Kg	☼	94	75 - 125	3	20
Chromium	16.0		70.0	83.30		mg/Kg	☼	96	75 - 125	1	20
Cobalt	11.6		70.0	85.79		mg/Kg	☼	106	75 - 125	1	20
Copper	13.5		70.0	78.90		mg/Kg	☼	93	75 - 125	1	20
Iron	14700		700	18040	4	mg/Kg	☼	482	75 - 125	4	20
Lead	42.2		70.0	100.8		mg/Kg	☼	84	75 - 125	1	20
Magnesium	1820		3500	5385		mg/Kg	☼	102	75 - 125	2	20
Nickel	15.7		70.0	93.37		mg/Kg	☼	111	75 - 125	2	20
Potassium	799		3500	4377		mg/Kg	☼	102	75 - 125	2	20
Selenium	0.997	J	140	124.9		mg/Kg	☼	89	75 - 125	0	20
Silver	ND		7.00	6.621		mg/Kg	☼	95	75 - 125	0	20
Sodium	ND		3500	3243		mg/Kg	☼	93	75 - 125	1	20
Thallium	ND		140	137.7		mg/Kg	☼	98	75 - 125	1	20
Vanadium	30.5		70.0	103.6		mg/Kg	☼	105	75 - 125	3	20
Zinc	65.4		70.0	151.6		mg/Kg	☼	123	75 - 125	3	20

Lab Sample ID: 240-195376-5 MSD — **Client Sample ID: DU-14-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	1030		70.0	1113	4	mg/Kg	☼	111	75 - 125	8	20

Lab Sample ID: MB 240-595416/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595603 — **Prep Batch: 595416**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5.543	J	20.0	5.33	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Antimony	ND		2.00	0.359	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Arsenic	ND		1.50	0.316	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Barium	ND		20.0	0.362	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Calcium	ND		500	36.5	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Chromium	ND		1.00	0.343	mg/Kg		11/21/23 11:00	11/22/23 10:51	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 240-595416/1-A
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		1.00	0.0740	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Copper	ND		2.50	0.236	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Iron	ND		20.0	6.94	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Lead	ND		1.00	0.282	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Magnesium	ND		500	15.3	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Manganese	ND		1.50	0.259	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Nickel	ND		4.00	0.496	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Potassium	ND		500	35.8	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Selenium	ND		2.00	0.469	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Silver	ND		1.00	0.0810	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Sodium	ND		500	142	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Thallium	ND		2.00	0.399	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Vanadium	ND		5.00	0.822	mg/Kg		11/21/23 11:00	11/22/23 10:51	1
Zinc	ND		5.00	1.37	mg/Kg		11/21/23 11:00	11/22/23 10:51	1

Lab Sample ID: LCS 240-595416/2-A
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	970.3		mg/Kg		97	80 - 120
Antimony	100	102.3		mg/Kg		102	80 - 120
Arsenic	200	200.9		mg/Kg		100	80 - 120
Barium	200	194.0		mg/Kg		97	80 - 120
Beryllium	100	98.74		mg/Kg		99	80 - 120
Cadmium	100	99.31		mg/Kg		99	80 - 120
Calcium	5000	4805		mg/Kg		96	80 - 120
Chromium	100	96.45		mg/Kg		96	80 - 120
Cobalt	100	99.87		mg/Kg		100	80 - 120
Copper	100	96.39		mg/Kg		96	80 - 120
Iron	1000	968.4		mg/Kg		97	80 - 120
Lead	100	94.20		mg/Kg		94	80 - 120
Magnesium	5000	4809		mg/Kg		96	80 - 120
Manganese	100	98.27		mg/Kg		98	80 - 120
Nickel	100	100.1		mg/Kg		100	80 - 120
Potassium	5000	4896		mg/Kg		98	80 - 120
Selenium	200	199.1		mg/Kg		100	80 - 120
Silver	10.0	9.795		mg/Kg		98	80 - 120
Sodium	5000	4910		mg/Kg		98	80 - 120
Thallium	200	198.5		mg/Kg		99	80 - 120
Vanadium	100	96.92		mg/Kg		97	80 - 120
Zinc	100	100.1		mg/Kg		100	80 - 120

Lab Sample ID: 240-195376-21 MS
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: DU-19-3
Prep Type: Total/NA
Prep Batch: 595416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	8770	B	919	16580	4	mg/Kg	☼	850	75 - 125

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 240-195376-21 MS
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: DU-19-3
Prep Type: Total/NA
Prep Batch: 595416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.696	J F1	91.9	35.11	F1	mg/Kg	☼	37	75 - 125
Arsenic	6.36		184	174.0		mg/Kg	☼	91	75 - 125
Barium	108		184	286.7		mg/Kg	☼	97	75 - 125
Beryllium	0.563		91.9	83.51		mg/Kg	☼	90	75 - 125
Cadmium	0.279	J	91.9	83.86		mg/Kg	☼	91	75 - 125
Calcium	17000	F1	4600	19820	F1	mg/Kg	☼	60	75 - 125
Chromium	16.2		91.9	102.9		mg/Kg	☼	94	75 - 125
Cobalt	6.65		91.9	103.1		mg/Kg	☼	105	75 - 125
Copper	11.7		91.9	97.42		mg/Kg	☼	93	75 - 125
Iron	11900		919	14720	4	mg/Kg	☼	311	75 - 125
Lead	37.9		91.9	113.4		mg/Kg	☼	82	75 - 125
Magnesium	2610		4600	6984		mg/Kg	☼	95	75 - 125
Manganese	394		91.9	508.7	4	mg/Kg	☼	125	75 - 125
Nickel	13.5		91.9	111.4		mg/Kg	☼	107	75 - 125
Potassium	747		4600	5302		mg/Kg	☼	99	75 - 125
Selenium	0.775	J	184	165.6		mg/Kg	☼	90	75 - 125
Silver	ND		9.19	8.653		mg/Kg	☼	94	75 - 125
Sodium	ND		4600	4248		mg/Kg	☼	92	75 - 125
Thallium	ND		184	178.1		mg/Kg	☼	97	75 - 125
Vanadium	23.7		91.9	114.7		mg/Kg	☼	99	75 - 125
Zinc	54.7		91.9	160.8		mg/Kg	☼	115	75 - 125

Lab Sample ID: 240-195376-21 MSD
Matrix: Solid
Analysis Batch: 595603

Client Sample ID: DU-19-3
Prep Type: Total/NA
Prep Batch: 595416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	8770	B	919	15930	4	mg/Kg	☼	779	75 - 125	4	20
Antimony	0.696	J F1	91.9	35.00	F1	mg/Kg	☼	37	75 - 125	0	20
Arsenic	6.36		184	172.8		mg/Kg	☼	91	75 - 125	1	20
Barium	108		184	286.4		mg/Kg	☼	97	75 - 125	0	20
Beryllium	0.563		91.9	83.33		mg/Kg	☼	90	75 - 125	0	20
Cadmium	0.279	J	91.9	83.24		mg/Kg	☼	90	75 - 125	1	20
Calcium	17000	F1	4600	21360		mg/Kg	☼	94	75 - 125	8	20
Chromium	16.2		91.9	101.9		mg/Kg	☼	93	75 - 125	1	20
Cobalt	6.65		91.9	103.2		mg/Kg	☼	105	75 - 125	0	20
Copper	11.7		91.9	96.71		mg/Kg	☼	92	75 - 125	1	20
Iron	11900		919	15810	4	mg/Kg	☼	429	75 - 125	7	20
Lead	37.9		91.9	112.7		mg/Kg	☼	81	75 - 125	1	20
Magnesium	2610		4600	7145		mg/Kg	☼	99	75 - 125	2	20
Manganese	394		91.9	563.0	4	mg/Kg	☼	184	75 - 125	10	20
Nickel	13.5		91.9	111.3		mg/Kg	☼	106	75 - 125	0	20
Potassium	747		4600	5226		mg/Kg	☼	97	75 - 125	1	20
Selenium	0.775	J	184	164.4		mg/Kg	☼	89	75 - 125	1	20
Silver	ND		9.19	8.670		mg/Kg	☼	94	75 - 125	0	20
Sodium	ND		4600	4259		mg/Kg	☼	93	75 - 125	0	20
Thallium	ND		184	176.1		mg/Kg	☼	96	75 - 125	1	20
Vanadium	23.7		91.9	117.5		mg/Kg	☼	102	75 - 125	2	20
Zinc	54.7		91.9	158.3		mg/Kg	☼	113	75 - 125	2	20

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-595542/1-A
Matrix: Solid
Analysis Batch: 595857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Antimony	ND		2.00	0.359	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Arsenic	ND		1.50	0.316	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Barium	ND		20.0	0.362	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Calcium	ND		500	36.5	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Chromium	ND		1.00	0.343	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Copper	ND		2.50	0.236	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Iron	ND		20.0	6.94	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Lead	ND		1.00	0.282	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Magnesium	ND		500	15.3	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Manganese	ND		1.50	0.259	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Nickel	ND		4.00	0.496	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Potassium	ND		500	35.8	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Selenium	ND		2.00	0.469	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Silver	ND		1.00	0.0810	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Sodium	ND		500	142	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Thallium	ND		2.00	0.399	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Vanadium	ND		5.00	0.822	mg/Kg		11/22/23 10:00	11/27/23 09:35	1
Zinc	ND		5.00	1.37	mg/Kg		11/22/23 10:00	11/27/23 09:35	1

Lab Sample ID: LCS 240-595542/2-A
Matrix: Solid
Analysis Batch: 595857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	985.4		mg/Kg		99	80 - 120
Antimony	100	103.1		mg/Kg		103	80 - 120
Arsenic	200	198.7		mg/Kg		99	80 - 120
Barium	200	194.4		mg/Kg		97	80 - 120
Beryllium	100	101.2		mg/Kg		101	80 - 120
Cadmium	100	98.86		mg/Kg		99	80 - 120
Calcium	5000	4876		mg/Kg		98	80 - 120
Chromium	100	93.64		mg/Kg		94	80 - 120
Cobalt	100	98.41		mg/Kg		98	80 - 120
Copper	100	94.03		mg/Kg		94	80 - 120
Iron	1000	999.5		mg/Kg		100	80 - 120
Lead	100	93.77		mg/Kg		94	80 - 120
Magnesium	5000	4984		mg/Kg		100	80 - 120
Manganese	100	97.69		mg/Kg		98	80 - 120
Nickel	100	98.41		mg/Kg		98	80 - 120
Potassium	5000	4775		mg/Kg		96	80 - 120
Selenium	200	197.9		mg/Kg		99	80 - 120
Silver	10.0	9.476		mg/Kg		95	80 - 120
Sodium	5000	4754		mg/Kg		95	80 - 120
Thallium	200	194.5		mg/Kg		97	80 - 120
Vanadium	100	96.84		mg/Kg		97	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-595542/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	100	100.5		mg/Kg		100	80 - 120

Lab Sample ID: 240-195376-29 MS — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	8150		881	13590	4	mg/Kg	☼	618	75 - 125
Antimony	ND	F1	88.1	25.25	F1	mg/Kg	☼	29	75 - 125
Arsenic	27.5		176	184.8		mg/Kg	☼	89	75 - 125
Barium	389	F1 F2	176	303.7	F1	mg/Kg	☼	-49	75 - 125
Beryllium	0.547		88.1	79.15		mg/Kg	☼	89	75 - 125
Cadmium	49.9		88.1	120.1		mg/Kg	☼	80	75 - 125
Chromium	22.8		88.1	96.88		mg/Kg	☼	84	75 - 125
Cobalt	6.54		88.1	95.58		mg/Kg	☼	101	75 - 125
Copper	26.9		88.1	102.5		mg/Kg	☼	86	75 - 125
Iron	13900		881	15850	4	mg/Kg	☼	217	75 - 125
Magnesium	2310		4400	6495		mg/Kg	☼	95	75 - 125
Manganese	463		88.1	526.3	4	mg/Kg	☼	72	75 - 125
Nickel	20.6		88.1	109.5		mg/Kg	☼	101	75 - 125
Potassium	865		4400	4870		mg/Kg	☼	91	75 - 125
Selenium	0.687	J	176	154.9		mg/Kg	☼	88	75 - 125
Silver	5.66		8.81	13.87		mg/Kg	☼	93	75 - 125
Sodium	ND		4400	3876		mg/Kg	☼	88	75 - 125
Thallium	ND		176	158.5		mg/Kg	☼	90	75 - 125
Vanadium	28.8		88.1	106.5		mg/Kg	☼	88	75 - 125

Lab Sample ID: 240-195376-29 MS — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	61600		4400	62640	4	mg/Kg	☼	24	75 - 125
Lead	2530		88.1	2672	4	mg/Kg	☼	157	75 - 125
Zinc	1420		88.1	1543	4	mg/Kg	☼	139	75 - 125

Lab Sample ID: 240-195376-29 MSD — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	8150		888	14120	4	mg/Kg	☼	672	75 - 125	4	20
Antimony	ND	F1	88.8	26.27	F1	mg/Kg	☼	30	75 - 125	4	20
Arsenic	27.5		178	189.3		mg/Kg	☼	91	75 - 125	2	20
Barium	389	F1 F2	178	1356	F1 F2	mg/Kg	☼	544	75 - 125	127	20
Beryllium	0.547		88.8	80.35		mg/Kg	☼	90	75 - 125	2	20
Cadmium	49.9		88.8	121.8		mg/Kg	☼	81	75 - 125	1	20
Chromium	22.8		88.8	111.0		mg/Kg	☼	99	75 - 125	14	20
Cobalt	6.54		88.8	95.51		mg/Kg	☼	100	75 - 125	0	20

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 240-195376-29 MSD — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Copper	26.9		88.8	105.3		mg/Kg	☼	88	75 - 125	3	20
Iron	13900		888	16270	4	mg/Kg	☼	263	75 - 125	3	20
Magnesium	2310		4440	6478		mg/Kg	☼	94	75 - 125	0	20
Manganese	463		88.8	458.2	4	mg/Kg	☼	-5	75 - 125	14	20
Nickel	20.6		88.8	110.1		mg/Kg	☼	101	75 - 125	1	20
Potassium	865		4440	5004		mg/Kg	☼	93	75 - 125	3	20
Selenium	0.687	J	178	157.8		mg/Kg	☼	88	75 - 125	2	20
Silver	5.66		8.88	13.96		mg/Kg	☼	93	75 - 125	1	20
Sodium	ND		4440	3953		mg/Kg	☼	89	75 - 125	2	20
Thallium	ND		178	161.0		mg/Kg	☼	91	75 - 125	2	20
Vanadium	28.8		88.8	109.0		mg/Kg	☼	90	75 - 125	2	20

Lab Sample ID: 240-195376-29 MSD — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595857 — **Prep Batch: 595542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	61600		4440	65920	4	mg/Kg	☼	98	75 - 125	5	20
Lead	2530		88.8	2714	4	mg/Kg	☼	203	75 - 125	2	20
Zinc	1420		88.8	1538	4	mg/Kg	☼	132	75 - 125	0	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-595410/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595410**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/21/23 12:00	11/27/23 15:36	1

Lab Sample ID: LCS 240-595410/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595410**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.8961		mg/Kg		108	80 - 120

Lab Sample ID: 240-195376-5 MS — **Client Sample ID: DU-14-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595410**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0381	J	0.179	0.2326		mg/Kg	☼	109	80 - 120

Lab Sample ID: 240-195376-5 MSD — **Client Sample ID: DU-14-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595410**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.0381	J	0.185	0.2312		mg/Kg	☼	104	80 - 120	1	20

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: MB 240-595419/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595419**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/21/23 12:00	11/27/23 14:09	1

Lab Sample ID: LCS 240-595419/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595419**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.8927		mg/Kg		107	80 - 120

Lab Sample ID: 240-195376-21 MS — **Client Sample ID: DU-19-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595419**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0349	J	0.166	0.2209		mg/Kg	☼	112	80 - 120

Lab Sample ID: 240-195376-21 MSD — **Client Sample ID: DU-19-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595419**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.0349	J	0.169	0.2221		mg/Kg	☼	111	80 - 120	1	20

Lab Sample ID: MB 240-595548/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595548**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/22/23 11:00	11/27/23 14:36	1

Lab Sample ID: LCS 240-595548/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595548**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.8959		mg/Kg		108	80 - 120

Lab Sample ID: 240-195376-29 MS — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595548**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.122	F1 F2	0.184	0.4497	F1	mg/Kg	☼	178	80 - 120

Lab Sample ID: 240-195376-29 MSD — **Client Sample ID: DU-22-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595883 — **Prep Batch: 595548**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.122	F1 F2	0.184	0.3072	F2	mg/Kg	☼	101	80 - 120	38	20

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Method: Moisture - Percent Moisture

Lab Sample ID: 240-195376-10 DU
Matrix: Solid
Analysis Batch: 595315

Client Sample ID: DU-16-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	97.4			97.5		%				0.1	20
Percent Moisture	2.6			2.5		%				4	20

Lab Sample ID: 240-195376-15 DU
Matrix: Solid
Analysis Batch: 595315

Client Sample ID: DU-17-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	97.7			97.8		%				0.1	20
Percent Moisture	2.3			2.2		%				6	20

Lab Sample ID: 240-195376-26 DU
Matrix: Solid
Analysis Batch: 595315

Client Sample ID: DU-21-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	96.2			96.6		%				0.4	20
Percent Moisture	3.8			3.4		%				9	20

Lab Sample ID: 240-195376-28 DU
Matrix: Solid
Analysis Batch: 595474

Client Sample ID: DU-22-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	97.1			97.2		%				0.1	20
Percent Moisture	2.9			2.8		%				5	20

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

GC/MS Semi VOA

ISM Prep Batch: 594867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	Increment, prep	
240-195376-2	DU-13-2	Total/NA	Solid	Increment, prep	
240-195376-3	DU-13-3	Total/NA	Solid	Increment, prep	
240-195376-4	DU-14-1	Total/NA	Solid	Increment, prep	
240-195376-5	DU-14-2	Total/NA	Solid	Increment, prep	
240-195376-6	DU-14-3	Total/NA	Solid	Increment, prep	
240-195376-7	DU-15-1	Total/NA	Solid	Increment, prep	
240-195376-8	DU-15-2	Total/NA	Solid	Increment, prep	
240-195376-9	DU-15-3	Total/NA	Solid	Increment, prep	
240-195376-9 - RE	DU-15-3	Total/NA	Solid	Increment, prep	
240-195376-10	DU-16-1	Total/NA	Solid	Increment, prep	

ISM Prep Batch: 594939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-11	DU-16-2	Total/NA	Solid	Increment, prep	
240-195376-12	DU-16-3	Total/NA	Solid	Increment, prep	
240-195376-13	DU-17-1	Total/NA	Solid	Increment, prep	
240-195376-14	DU-17-2	Total/NA	Solid	Increment, prep	
240-195376-15	DU-17-3	Total/NA	Solid	Increment, prep	
240-195376-16	DU-18-1	Total/NA	Solid	Increment, prep	
240-195376-17	DU-18-2	Total/NA	Solid	Increment, prep	
240-195376-18	DU-18-3	Total/NA	Solid	Increment, prep	
240-195376-19	DU-19-1	Total/NA	Solid	Increment, prep	
240-195376-20	DU-19-2	Total/NA	Solid	Increment, prep	
240-195376-21	DU-19-3	Total/NA	Solid	Increment, prep	

ISM Prep Batch: 595183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-22	DU-20-1	Total/NA	Solid	Increment, prep	
240-195376-23	DU-20-2	Total/NA	Solid	Increment, prep	
240-195376-24	DU-20-3	Total/NA	Solid	Increment, prep	
240-195376-25	DU-21-1	Total/NA	Solid	Increment, prep	
240-195376-26	DU-21-2	Total/NA	Solid	Increment, prep	
240-195376-27	DU-21-3	Total/NA	Solid	Increment, prep	
240-195376-28	DU-22-1	Total/NA	Solid	Increment, prep	
240-195376-29	DU-22-2	Total/NA	Solid	Increment, prep	
240-195376-30	DU-22-3	Total/NA	Solid	Increment, prep	
240-195376-31 - RE	DU-23-1	Total/NA	Solid	Increment, prep	
240-195376-31	DU-23-1	Total/NA	Solid	Increment, prep	
240-195376-32 - RE	DU-23-2	Total/NA	Solid	Increment, prep	
240-195376-32	DU-23-2	Total/NA	Solid	Increment, prep	
240-195376-33 - RE	DU-23-3	Total/NA	Solid	Increment, prep	
240-195376-33	DU-23-3	Total/NA	Solid	Increment, prep	

Prep Batch: 595386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	3546	594867
240-195376-2	DU-13-2	Total/NA	Solid	3546	594867
240-195376-3	DU-13-3	Total/NA	Solid	3546	594867
240-195376-4	DU-14-1	Total/NA	Solid	3546	594867
240-195376-5	DU-14-2	Total/NA	Solid	3546	594867

GC/MS Semi VOA (Continued)

Prep Batch: 595386 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-6	DU-14-3	Total/NA	Solid	3546	594867
240-195376-7	DU-15-1	Total/NA	Solid	3546	594867
240-195376-8	DU-15-2	Total/NA	Solid	3546	594867
240-195376-9	DU-15-3	Total/NA	Solid	3546	594867
240-195376-10	DU-16-1	Total/NA	Solid	3546	594867
240-195376-11	DU-16-2	Total/NA	Solid	3546	594939
240-195376-12	DU-16-3	Total/NA	Solid	3546	594939
240-195376-13	DU-17-1	Total/NA	Solid	3546	594939
240-195376-14	DU-17-2	Total/NA	Solid	3546	594939
240-195376-15	DU-17-3	Total/NA	Solid	3546	594939
240-195376-16	DU-18-1	Total/NA	Solid	3546	594939
240-195376-17	DU-18-2	Total/NA	Solid	3546	594939
240-195376-18	DU-18-3	Total/NA	Solid	3546	594939
240-195376-19	DU-19-1	Total/NA	Solid	3546	594939
240-195376-20	DU-19-2	Total/NA	Solid	3546	594939
MB 240-595386/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-595386/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 595418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-21	DU-19-3	Total/NA	Solid	3546	594939
240-195376-22	DU-20-1	Total/NA	Solid	3546	595183
240-195376-23	DU-20-2	Total/NA	Solid	3546	595183
240-195376-24	DU-20-3	Total/NA	Solid	3546	595183
240-195376-25	DU-21-1	Total/NA	Solid	3546	595183
240-195376-26	DU-21-2	Total/NA	Solid	3546	595183
240-195376-27	DU-21-3	Total/NA	Solid	3546	595183
MB 240-595418/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-595418/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 595595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-28	DU-22-1	Total/NA	Solid	3546	595183
240-195376-29	DU-22-2	Total/NA	Solid	3546	595183
240-195376-30	DU-22-3	Total/NA	Solid	3546	595183
240-195376-31	DU-23-1	Total/NA	Solid	3546	595183
240-195376-32	DU-23-2	Total/NA	Solid	3546	595183
240-195376-33	DU-23-3	Total/NA	Solid	3546	595183
MB 240-595595/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-595595/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 595725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-28	DU-22-1	Total/NA	Solid	8270E	595595
240-195376-29	DU-22-2	Total/NA	Solid	8270E	595595
240-195376-31	DU-23-1	Total/NA	Solid	8270E	595595
240-195376-32	DU-23-2	Total/NA	Solid	8270E	595595
240-195376-33	DU-23-3	Total/NA	Solid	8270E	595595
MB 240-595595/1-A	Method Blank	Total/NA	Solid	8270E	595595

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

GC/MS Semi VOA

Analysis Batch: 595743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-21	DU-19-3	Total/NA	Solid	8270E	595418
240-195376-22	DU-20-1	Total/NA	Solid	8270E	595418
240-195376-23	DU-20-2	Total/NA	Solid	8270E	595418
240-195376-24	DU-20-3	Total/NA	Solid	8270E	595418
240-195376-25	DU-21-1	Total/NA	Solid	8270E	595418
240-195376-26	DU-21-2	Total/NA	Solid	8270E	595418
240-195376-27	DU-21-3	Total/NA	Solid	8270E	595418
MB 240-595418/1-A	Method Blank	Total/NA	Solid	8270E	595418
LCS 240-595418/2-A	Lab Control Sample	Total/NA	Solid	8270E	595418

Analysis Batch: 595865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-30	DU-22-3	Total/NA	Solid	8270E	595595
LCS 240-595595/2-A	Lab Control Sample	Total/NA	Solid	8270E	595595

Prep Batch: 596145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-31 - RE	DU-23-1	Total/NA	Solid	3546	595183
240-195376-32 - RE	DU-23-2	Total/NA	Solid	3546	595183
240-195376-33 - RE	DU-23-3	Total/NA	Solid	3546	595183
MB 240-596145/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-596145/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 596252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	8270E	595386
240-195376-2	DU-13-2	Total/NA	Solid	8270E	595386
240-195376-3	DU-13-3	Total/NA	Solid	8270E	595386
240-195376-5	DU-14-2	Total/NA	Solid	8270E	595386
240-195376-6	DU-14-3	Total/NA	Solid	8270E	595386
240-195376-7	DU-15-1	Total/NA	Solid	8270E	595386
240-195376-8	DU-15-2	Total/NA	Solid	8270E	595386
240-195376-10	DU-16-1	Total/NA	Solid	8270E	595386
240-195376-11	DU-16-2	Total/NA	Solid	8270E	595386
240-195376-12	DU-16-3	Total/NA	Solid	8270E	595386
240-195376-14	DU-17-2	Total/NA	Solid	8270E	595386
240-195376-15	DU-17-3	Total/NA	Solid	8270E	595386
240-195376-16	DU-18-1	Total/NA	Solid	8270E	595386
240-195376-17	DU-18-2	Total/NA	Solid	8270E	595386
240-195376-19	DU-19-1	Total/NA	Solid	8270E	595386
240-195376-20	DU-19-2	Total/NA	Solid	8270E	595386
MB 240-595386/1-A	Method Blank	Total/NA	Solid	8270E	595386
LCS 240-595386/2-A	Lab Control Sample	Total/NA	Solid	8270E	595386

Analysis Batch: 596471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-4	DU-14-1	Total/NA	Solid	8270E	595386
240-195376-13	DU-17-1	Total/NA	Solid	8270E	595386
240-195376-31 - RE	DU-23-1	Total/NA	Solid	8270E	596145
240-195376-32 - RE	DU-23-2	Total/NA	Solid	8270E	596145
240-195376-33 - RE	DU-23-3	Total/NA	Solid	8270E	596145

GC/MS Semi VOA (Continued)

Analysis Batch: 596471 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-596145/1-A	Method Blank	Total/NA	Solid	8270E	596145
LCS 240-596145/2-A	Lab Control Sample	Total/NA	Solid	8270E	596145

Analysis Batch: 596668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-9	DU-15-3	Total/NA	Solid	8270E	595386
240-195376-18	DU-18-3	Total/NA	Solid	8270E	595386
MB 240-595386/1-A	Method Blank	Total/NA	Solid	8270E	595386
LCS 240-595386/2-A	Lab Control Sample	Total/NA	Solid	8270E	595386

Prep Batch: 596840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-9 - RE	DU-15-3	Total/NA	Solid	3546	594867
MB 240-596840/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-596840/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 596957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-9 - RE	DU-15-3	Total/NA	Solid	8270E	596840
MB 240-596840/1-A	Method Blank	Total/NA	Solid	8270E	596840
LCS 240-596840/2-A	Lab Control Sample	Total/NA	Solid	8270E	596840

Metals

ISM Prep Batch: 594867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	Increment, prep	
240-195376-2	DU-13-2	Total/NA	Solid	Increment, prep	
240-195376-3	DU-13-3	Total/NA	Solid	Increment, prep	
240-195376-4	DU-14-1	Total/NA	Solid	Increment, prep	
240-195376-5	DU-14-2	Total/NA	Solid	Increment, prep	
240-195376-6	DU-14-3	Total/NA	Solid	Increment, prep	
240-195376-7	DU-15-1	Total/NA	Solid	Increment, prep	
240-195376-8	DU-15-2	Total/NA	Solid	Increment, prep	
240-195376-9	DU-15-3	Total/NA	Solid	Increment, prep	
240-195376-10	DU-16-1	Total/NA	Solid	Increment, prep	
240-195376-5 MS	DU-14-2	Total/NA	Solid	Increment, prep	
240-195376-5 MSD	DU-14-2	Total/NA	Solid	Increment, prep	

ISM Prep Batch: 594939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-11	DU-16-2	Total/NA	Solid	Increment, prep	
240-195376-12	DU-16-3	Total/NA	Solid	Increment, prep	
240-195376-13	DU-17-1	Total/NA	Solid	Increment, prep	
240-195376-14	DU-17-2	Total/NA	Solid	Increment, prep	
240-195376-15	DU-17-3	Total/NA	Solid	Increment, prep	
240-195376-16	DU-18-1	Total/NA	Solid	Increment, prep	
240-195376-17	DU-18-2	Total/NA	Solid	Increment, prep	
240-195376-18	DU-18-3	Total/NA	Solid	Increment, prep	
240-195376-19	DU-19-1	Total/NA	Solid	Increment, prep	
240-195376-20	DU-19-2	Total/NA	Solid	Increment, prep	

Metals (Continued)

ISM Prep Batch: 594939 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-21	DU-19-3	Total/NA	Solid	Increment, prep	
240-195376-21 MS	DU-19-3	Total/NA	Solid	Increment, prep	
240-195376-21 MSD	DU-19-3	Total/NA	Solid	Increment, prep	

ISM Prep Batch: 595183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-22	DU-20-1	Total/NA	Solid	Increment, prep	
240-195376-23	DU-20-2	Total/NA	Solid	Increment, prep	
240-195376-24	DU-20-3	Total/NA	Solid	Increment, prep	
240-195376-25	DU-21-1	Total/NA	Solid	Increment, prep	
240-195376-26	DU-21-2	Total/NA	Solid	Increment, prep	
240-195376-27	DU-21-3	Total/NA	Solid	Increment, prep	
240-195376-28	DU-22-1	Total/NA	Solid	Increment, prep	
240-195376-29	DU-22-2	Total/NA	Solid	Increment, prep	
240-195376-30	DU-22-3	Total/NA	Solid	Increment, prep	
240-195376-31	DU-23-1	Total/NA	Solid	Increment, prep	
240-195376-32	DU-23-2	Total/NA	Solid	Increment, prep	
240-195376-33	DU-23-3	Total/NA	Solid	Increment, prep	
240-195376-29 MS	DU-22-2	Total/NA	Solid	Increment, prep	
240-195376-29 MSD	DU-22-2	Total/NA	Solid	Increment, prep	

Prep Batch: 595402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	3050B	594867
240-195376-2	DU-13-2	Total/NA	Solid	3050B	594867
240-195376-3	DU-13-3	Total/NA	Solid	3050B	594867
240-195376-4	DU-14-1	Total/NA	Solid	3050B	594867
240-195376-5	DU-14-2	Total/NA	Solid	3050B	594867
240-195376-6	DU-14-3	Total/NA	Solid	3050B	594867
240-195376-7	DU-15-1	Total/NA	Solid	3050B	594867
240-195376-8	DU-15-2	Total/NA	Solid	3050B	594867
240-195376-9	DU-15-3	Total/NA	Solid	3050B	594867
240-195376-10	DU-16-1	Total/NA	Solid	3050B	594867
240-195376-11	DU-16-2	Total/NA	Solid	3050B	594939
240-195376-12	DU-16-3	Total/NA	Solid	3050B	594939
240-195376-13	DU-17-1	Total/NA	Solid	3050B	594939
240-195376-14	DU-17-2	Total/NA	Solid	3050B	594939
240-195376-15	DU-17-3	Total/NA	Solid	3050B	594939
240-195376-16	DU-18-1	Total/NA	Solid	3050B	594939
240-195376-17	DU-18-2	Total/NA	Solid	3050B	594939
240-195376-18	DU-18-3	Total/NA	Solid	3050B	594939
240-195376-19	DU-19-1	Total/NA	Solid	3050B	594939
240-195376-20	DU-19-2	Total/NA	Solid	3050B	594939
MB 240-595402/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-595402/2-A	Lab Control Sample	Total/NA	Solid	3050B	
240-195376-5 MS	DU-14-2	Total/NA	Solid	3050B	594867
240-195376-5 MSD	DU-14-2	Total/NA	Solid	3050B	594867

Prep Batch: 595410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	7471B	594867

Metals (Continued)

Prep Batch: 595410 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-2	DU-13-2	Total/NA	Solid	7471B	594867
240-195376-3	DU-13-3	Total/NA	Solid	7471B	594867
240-195376-4	DU-14-1	Total/NA	Solid	7471B	594867
240-195376-5	DU-14-2	Total/NA	Solid	7471B	594867
240-195376-6	DU-14-3	Total/NA	Solid	7471B	594867
240-195376-7	DU-15-1	Total/NA	Solid	7471B	594867
240-195376-8	DU-15-2	Total/NA	Solid	7471B	594867
240-195376-9	DU-15-3	Total/NA	Solid	7471B	594867
240-195376-10	DU-16-1	Total/NA	Solid	7471B	594867
240-195376-11	DU-16-2	Total/NA	Solid	7471B	594939
240-195376-12	DU-16-3	Total/NA	Solid	7471B	594939
240-195376-13	DU-17-1	Total/NA	Solid	7471B	594939
240-195376-14	DU-17-2	Total/NA	Solid	7471B	594939
240-195376-15	DU-17-3	Total/NA	Solid	7471B	594939
240-195376-16	DU-18-1	Total/NA	Solid	7471B	594939
240-195376-17	DU-18-2	Total/NA	Solid	7471B	594939
240-195376-18	DU-18-3	Total/NA	Solid	7471B	594939
240-195376-19	DU-19-1	Total/NA	Solid	7471B	594939
240-195376-20	DU-19-2	Total/NA	Solid	7471B	594939
MB 240-595410/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-595410/2-A	Lab Control Sample	Total/NA	Solid	7471B	
240-195376-5 MS	DU-14-2	Total/NA	Solid	7471B	594867
240-195376-5 MSD	DU-14-2	Total/NA	Solid	7471B	594867

Prep Batch: 595416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-21	DU-19-3	Total/NA	Solid	3050B	594939
240-195376-22	DU-20-1	Total/NA	Solid	3050B	595183
240-195376-23	DU-20-2	Total/NA	Solid	3050B	595183
240-195376-24	DU-20-3	Total/NA	Solid	3050B	595183
240-195376-25	DU-21-1	Total/NA	Solid	3050B	595183
240-195376-26	DU-21-2	Total/NA	Solid	3050B	595183
240-195376-27	DU-21-3	Total/NA	Solid	3050B	595183
MB 240-595416/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-595416/2-A	Lab Control Sample	Total/NA	Solid	3050B	
240-195376-21 MS	DU-19-3	Total/NA	Solid	3050B	594939
240-195376-21 MSD	DU-19-3	Total/NA	Solid	3050B	594939

Prep Batch: 595419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-21	DU-19-3	Total/NA	Solid	7471B	594939
240-195376-22	DU-20-1	Total/NA	Solid	7471B	595183
240-195376-23	DU-20-2	Total/NA	Solid	7471B	595183
240-195376-24	DU-20-3	Total/NA	Solid	7471B	595183
240-195376-25	DU-21-1	Total/NA	Solid	7471B	595183
240-195376-26	DU-21-2	Total/NA	Solid	7471B	595183
240-195376-27	DU-21-3	Total/NA	Solid	7471B	595183
MB 240-595419/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-595419/2-A	Lab Control Sample	Total/NA	Solid	7471B	
240-195376-21 MS	DU-19-3	Total/NA	Solid	7471B	594939
240-195376-21 MSD	DU-19-3	Total/NA	Solid	7471B	594939

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Metals

Prep Batch: 595542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-28	DU-22-1	Total/NA	Solid	3050B	595183
240-195376-29	DU-22-2	Total/NA	Solid	3050B	595183
240-195376-30	DU-22-3	Total/NA	Solid	3050B	595183
240-195376-31	DU-23-1	Total/NA	Solid	3050B	595183
240-195376-32	DU-23-2	Total/NA	Solid	3050B	595183
240-195376-33	DU-23-3	Total/NA	Solid	3050B	595183
MB 240-595542/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-595542/2-A	Lab Control Sample	Total/NA	Solid	3050B	
240-195376-29 MS	DU-22-2	Total/NA	Solid	3050B	595183
240-195376-29 MSD	DU-22-2	Total/NA	Solid	3050B	595183

Prep Batch: 595548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-28	DU-22-1	Total/NA	Solid	7471B	595183
240-195376-29	DU-22-2	Total/NA	Solid	7471B	595183
240-195376-30	DU-22-3	Total/NA	Solid	7471B	595183
240-195376-31	DU-23-1	Total/NA	Solid	7471B	595183
240-195376-32	DU-23-2	Total/NA	Solid	7471B	595183
240-195376-33	DU-23-3	Total/NA	Solid	7471B	595183
MB 240-595548/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-595548/2-A	Lab Control Sample	Total/NA	Solid	7471B	
240-195376-29 MS	DU-22-2	Total/NA	Solid	7471B	595183
240-195376-29 MSD	DU-22-2	Total/NA	Solid	7471B	595183

Analysis Batch: 595603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	6010D	595402
240-195376-2	DU-13-2	Total/NA	Solid	6010D	595402
240-195376-3	DU-13-3	Total/NA	Solid	6010D	595402
240-195376-4	DU-14-1	Total/NA	Solid	6010D	595402
240-195376-5	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-6	DU-14-3	Total/NA	Solid	6010D	595402
240-195376-7	DU-15-1	Total/NA	Solid	6010D	595402
240-195376-8	DU-15-2	Total/NA	Solid	6010D	595402
240-195376-9	DU-15-3	Total/NA	Solid	6010D	595402
240-195376-10	DU-16-1	Total/NA	Solid	6010D	595402
240-195376-11	DU-16-2	Total/NA	Solid	6010D	595402
240-195376-12	DU-16-3	Total/NA	Solid	6010D	595402
240-195376-13	DU-17-1	Total/NA	Solid	6010D	595402
240-195376-14	DU-17-2	Total/NA	Solid	6010D	595402
240-195376-15	DU-17-3	Total/NA	Solid	6010D	595402
240-195376-16	DU-18-1	Total/NA	Solid	6010D	595402
240-195376-17	DU-18-2	Total/NA	Solid	6010D	595402
240-195376-18	DU-18-3	Total/NA	Solid	6010D	595402
240-195376-19	DU-19-1	Total/NA	Solid	6010D	595402
240-195376-20	DU-19-2	Total/NA	Solid	6010D	595402
240-195376-21	DU-19-3	Total/NA	Solid	6010D	595416
240-195376-22	DU-20-1	Total/NA	Solid	6010D	595416
240-195376-23	DU-20-2	Total/NA	Solid	6010D	595416
240-195376-24	DU-20-3	Total/NA	Solid	6010D	595416
240-195376-25	DU-21-1	Total/NA	Solid	6010D	595416

Metals (Continued)

Analysis Batch: 595603 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-26	DU-21-2	Total/NA	Solid	6010D	595416
240-195376-27	DU-21-3	Total/NA	Solid	6010D	595416
MB 240-595402/1-A	Method Blank	Total/NA	Solid	6010D	595402
MB 240-595416/1-A	Method Blank	Total/NA	Solid	6010D	595416
LCS 240-595402/2-A	Lab Control Sample	Total/NA	Solid	6010D	595402
LCS 240-595416/2-A	Lab Control Sample	Total/NA	Solid	6010D	595416
240-195376-5 MS	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-5 MSD	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-21 MS	DU-19-3	Total/NA	Solid	6010D	595416
240-195376-21 MSD	DU-19-3	Total/NA	Solid	6010D	595416

Analysis Batch: 595857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	6010D	595402
240-195376-4	DU-14-1	Total/NA	Solid	6010D	595402
240-195376-5	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-9	DU-15-3	Total/NA	Solid	6010D	595402
240-195376-15	DU-17-3	Total/NA	Solid	6010D	595402
240-195376-28	DU-22-1	Total/NA	Solid	6010D	595542
240-195376-28	DU-22-1	Total/NA	Solid	6010D	595542
240-195376-29	DU-22-2	Total/NA	Solid	6010D	595542
240-195376-29	DU-22-2	Total/NA	Solid	6010D	595542
240-195376-30	DU-22-3	Total/NA	Solid	6010D	595542
240-195376-30	DU-22-3	Total/NA	Solid	6010D	595542
240-195376-31	DU-23-1	Total/NA	Solid	6010D	595542
240-195376-32	DU-23-2	Total/NA	Solid	6010D	595542
240-195376-33	DU-23-3	Total/NA	Solid	6010D	595542
MB 240-595542/1-A	Method Blank	Total/NA	Solid	6010D	595542
LCS 240-595542/2-A	Lab Control Sample	Total/NA	Solid	6010D	595542
240-195376-5 MS	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-5 MSD	DU-14-2	Total/NA	Solid	6010D	595402
240-195376-29 MS	DU-22-2	Total/NA	Solid	6010D	595542
240-195376-29 MS	DU-22-2	Total/NA	Solid	6010D	595542
240-195376-29 MSD	DU-22-2	Total/NA	Solid	6010D	595542
240-195376-29 MSD	DU-22-2	Total/NA	Solid	6010D	595542

Analysis Batch: 595883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	7471B	595410
240-195376-2	DU-13-2	Total/NA	Solid	7471B	595410
240-195376-3	DU-13-3	Total/NA	Solid	7471B	595410
240-195376-4	DU-14-1	Total/NA	Solid	7471B	595410
240-195376-5	DU-14-2	Total/NA	Solid	7471B	595410
240-195376-6	DU-14-3	Total/NA	Solid	7471B	595410
240-195376-7	DU-15-1	Total/NA	Solid	7471B	595410
240-195376-8	DU-15-2	Total/NA	Solid	7471B	595410
240-195376-9	DU-15-3	Total/NA	Solid	7471B	595410
240-195376-10	DU-16-1	Total/NA	Solid	7471B	595410
240-195376-11	DU-16-2	Total/NA	Solid	7471B	595410
240-195376-12	DU-16-3	Total/NA	Solid	7471B	595410
240-195376-13	DU-17-1	Total/NA	Solid	7471B	595410

Metals (Continued)

Analysis Batch: 595883 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-14	DU-17-2	Total/NA	Solid	7471B	595410
240-195376-15	DU-17-3	Total/NA	Solid	7471B	595410
240-195376-16	DU-18-1	Total/NA	Solid	7471B	595410
240-195376-17	DU-18-2	Total/NA	Solid	7471B	595410
240-195376-18	DU-18-3	Total/NA	Solid	7471B	595410
240-195376-19	DU-19-1	Total/NA	Solid	7471B	595410
240-195376-20	DU-19-2	Total/NA	Solid	7471B	595410
240-195376-21	DU-19-3	Total/NA	Solid	7471B	595419
240-195376-22	DU-20-1	Total/NA	Solid	7471B	595419
240-195376-23	DU-20-2	Total/NA	Solid	7471B	595419
240-195376-24	DU-20-3	Total/NA	Solid	7471B	595419
240-195376-25	DU-21-1	Total/NA	Solid	7471B	595419
240-195376-26	DU-21-2	Total/NA	Solid	7471B	595419
240-195376-27	DU-21-3	Total/NA	Solid	7471B	595419
240-195376-28	DU-22-1	Total/NA	Solid	7471B	595548
240-195376-29	DU-22-2	Total/NA	Solid	7471B	595548
240-195376-30	DU-22-3	Total/NA	Solid	7471B	595548
240-195376-31	DU-23-1	Total/NA	Solid	7471B	595548
240-195376-32	DU-23-2	Total/NA	Solid	7471B	595548
240-195376-33	DU-23-3	Total/NA	Solid	7471B	595548
MB 240-595410/1-A	Method Blank	Total/NA	Solid	7471B	595410
MB 240-595419/1-A	Method Blank	Total/NA	Solid	7471B	595419
MB 240-595548/1-A	Method Blank	Total/NA	Solid	7471B	595548
LCS 240-595410/2-A	Lab Control Sample	Total/NA	Solid	7471B	595410
LCS 240-595419/2-A	Lab Control Sample	Total/NA	Solid	7471B	595419
LCS 240-595548/2-A	Lab Control Sample	Total/NA	Solid	7471B	595548
240-195376-5 MS	DU-14-2	Total/NA	Solid	7471B	595410
240-195376-5 MSD	DU-14-2	Total/NA	Solid	7471B	595410
240-195376-21 MS	DU-19-3	Total/NA	Solid	7471B	595419
240-195376-21 MSD	DU-19-3	Total/NA	Solid	7471B	595419
240-195376-29 MS	DU-22-2	Total/NA	Solid	7471B	595548
240-195376-29 MSD	DU-22-2	Total/NA	Solid	7471B	595548

General Chemistry

ISM Prep Batch: 594867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	Increment, prep	
240-195376-2	DU-13-2	Total/NA	Solid	Increment, prep	
240-195376-3	DU-13-3	Total/NA	Solid	Increment, prep	
240-195376-4	DU-14-1	Total/NA	Solid	Increment, prep	
240-195376-5	DU-14-2	Total/NA	Solid	Increment, prep	
240-195376-6	DU-14-3	Total/NA	Solid	Increment, prep	
240-195376-7	DU-15-1	Total/NA	Solid	Increment, prep	
240-195376-8	DU-15-2	Total/NA	Solid	Increment, prep	
240-195376-9	DU-15-3	Total/NA	Solid	Increment, prep	
240-195376-10	DU-16-1	Total/NA	Solid	Increment, prep	
240-195376-10 DU	DU-16-1	Total/NA	Solid	Increment, prep	

General Chemistry

ISM Prep Batch: 594939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-11	DU-16-2	Total/NA	Solid	Increment, prep	
240-195376-12	DU-16-3	Total/NA	Solid	Increment, prep	
240-195376-13	DU-17-1	Total/NA	Solid	Increment, prep	
240-195376-14	DU-17-2	Total/NA	Solid	Increment, prep	
240-195376-15	DU-17-3	Total/NA	Solid	Increment, prep	
240-195376-16	DU-18-1	Total/NA	Solid	Increment, prep	
240-195376-17	DU-18-2	Total/NA	Solid	Increment, prep	
240-195376-18	DU-18-3	Total/NA	Solid	Increment, prep	
240-195376-19	DU-19-1	Total/NA	Solid	Increment, prep	
240-195376-20	DU-19-2	Total/NA	Solid	Increment, prep	
240-195376-21	DU-19-3	Total/NA	Solid	Increment, prep	
240-195376-15 DU	DU-17-3	Total/NA	Solid	Increment, prep	

ISM Prep Batch: 595183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-22	DU-20-1	Total/NA	Solid	Increment, prep	
240-195376-23	DU-20-2	Total/NA	Solid	Increment, prep	
240-195376-24	DU-20-3	Total/NA	Solid	Increment, prep	
240-195376-25	DU-21-1	Total/NA	Solid	Increment, prep	
240-195376-26	DU-21-2	Total/NA	Solid	Increment, prep	
240-195376-27	DU-21-3	Total/NA	Solid	Increment, prep	
240-195376-28	DU-22-1	Total/NA	Solid	Increment, prep	
240-195376-29	DU-22-2	Total/NA	Solid	Increment, prep	
240-195376-30	DU-22-3	Total/NA	Solid	Increment, prep	
240-195376-31	DU-23-1	Total/NA	Solid	Increment, prep	
240-195376-32	DU-23-2	Total/NA	Solid	Increment, prep	
240-195376-33	DU-23-3	Total/NA	Solid	Increment, prep	
240-195376-26 DU	DU-21-2	Total/NA	Solid	Increment, prep	
240-195376-28 DU	DU-22-1	Total/NA	Solid	Increment, prep	

Analysis Batch: 595315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-1	DU-13-1	Total/NA	Solid	Moisture	594867
240-195376-2	DU-13-2	Total/NA	Solid	Moisture	594867
240-195376-3	DU-13-3	Total/NA	Solid	Moisture	594867
240-195376-4	DU-14-1	Total/NA	Solid	Moisture	594867
240-195376-5	DU-14-2	Total/NA	Solid	Moisture	594867
240-195376-6	DU-14-3	Total/NA	Solid	Moisture	594867
240-195376-7	DU-15-1	Total/NA	Solid	Moisture	594867
240-195376-8	DU-15-2	Total/NA	Solid	Moisture	594867
240-195376-9	DU-15-3	Total/NA	Solid	Moisture	594867
240-195376-10	DU-16-1	Total/NA	Solid	Moisture	594867
240-195376-11	DU-16-2	Total/NA	Solid	Moisture	594939
240-195376-12	DU-16-3	Total/NA	Solid	Moisture	594939
240-195376-13	DU-17-1	Total/NA	Solid	Moisture	594939
240-195376-14	DU-17-2	Total/NA	Solid	Moisture	594939
240-195376-15	DU-17-3	Total/NA	Solid	Moisture	594939
240-195376-16	DU-18-1	Total/NA	Solid	Moisture	594939
240-195376-17	DU-18-2	Total/NA	Solid	Moisture	594939
240-195376-18	DU-18-3	Total/NA	Solid	Moisture	594939
240-195376-19	DU-19-1	Total/NA	Solid	Moisture	594939

General Chemistry (Continued)

Analysis Batch: 595315 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-20	DU-19-2	Total/NA	Solid	Moisture	594939
240-195376-21	DU-19-3	Total/NA	Solid	Moisture	594939
240-195376-22	DU-20-1	Total/NA	Solid	Moisture	595183
240-195376-23	DU-20-2	Total/NA	Solid	Moisture	595183
240-195376-24	DU-20-3	Total/NA	Solid	Moisture	595183
240-195376-25	DU-21-1	Total/NA	Solid	Moisture	595183
240-195376-26	DU-21-2	Total/NA	Solid	Moisture	595183
240-195376-27	DU-21-3	Total/NA	Solid	Moisture	595183
240-195376-10 DU	DU-16-1	Total/NA	Solid	Moisture	594867
240-195376-15 DU	DU-17-3	Total/NA	Solid	Moisture	594939
240-195376-26 DU	DU-21-2	Total/NA	Solid	Moisture	595183

Analysis Batch: 595474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195376-28	DU-22-1	Total/NA	Solid	Moisture	595183
240-195376-29	DU-22-2	Total/NA	Solid	Moisture	595183
240-195376-30	DU-22-3	Total/NA	Solid	Moisture	595183
240-195376-31	DU-23-1	Total/NA	Solid	Moisture	595183
240-195376-32	DU-23-2	Total/NA	Solid	Moisture	595183
240-195376-33	DU-23-3	Total/NA	Solid	Moisture	595183
240-195376-28 DU	DU-22-1	Total/NA	Solid	Moisture	595183

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-1
Date Collected: 11/09/23 17:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 15:14

Client Sample ID: DU-13-1
Date Collected: 11/09/23 17:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-1
Matrix: Solid
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 17:58
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 12:46
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		2	595857	KLC	EET CLE	11/27/23 09:17
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:40

Client Sample ID: DU-13-2
Date Collected: 11/09/23 17:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 15:14

Client Sample ID: DU-13-2
Date Collected: 11/09/23 17:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-2
Matrix: Solid
Percent Solids: 97.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 18:22
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 12:51
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:43

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-13-3 — Lab Sample ID: 240-195376-3

Date Collected: 11/09/23 17:35 — **Matrix: Solid**
Date Received: 11/14/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 15:14

Client Sample ID: DU-13-3 — Lab Sample ID: 240-195376-3

Date Collected: 11/09/23 17:35 — **Matrix: Solid**
Date Received: 11/14/23 10:00 — **Percent Solids: 97.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 18:46
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 12:55
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:45

Client Sample ID: DU-14-1 — Lab Sample ID: 240-195376-4

Date Collected: 11/10/23 08:25 — **Matrix: Solid**
Date Received: 11/14/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 15:14

Client Sample ID: DU-14-1 — Lab Sample ID: 240-195376-4

Date Collected: 11/10/23 08:25 — **Matrix: Solid**
Date Received: 11/14/23 10:00 — **Percent Solids: 96.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596471	JMG	EET CLE	12/04/23 17:54
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 12:59
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 09:22
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:51

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-14-2
Date Collected: 11/10/23 08:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-14-2
Date Collected: 11/10/23 08:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-5
Matrix: Solid
Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 19:58
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 12:16
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 09:00
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:53

Client Sample ID: DU-14-3
Date Collected: 11/10/23 08:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-14-3
Date Collected: 11/10/23 08:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-6
Matrix: Solid
Percent Solids: 96.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 20:22
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:04
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:59

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-1
Date Collected: 11/10/23 08:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-15-1
Date Collected: 11/10/23 08:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-7
Matrix: Solid
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		2	596252	JMG	EET CLE	12/01/23 13:57
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:08
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:01

Client Sample ID: DU-15-2
Date Collected: 11/10/23 09:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-15-2
Date Collected: 11/10/23 09:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-8
Matrix: Solid
Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 19:10
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:13
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:04

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-15-3
Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-15-3
Date Collected: 11/10/23 09:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-9
Matrix: Solid
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596668	LKG	EET CLE	12/06/23 16:14
Total/NA	ISM Prep	Increment, prep	RE		594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546	RE		596840	BV1	EET CLE	12/07/23 09:20
Total/NA	Analysis	8270E	RE	1	596957	LKG	EET CLE	12/08/23 11:33
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:25
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 09:26
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:06

Client Sample ID: DU-16-1
Date Collected: 11/10/23 09:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-16-1
Date Collected: 11/10/23 09:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-10
Matrix: Solid
Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 14:46
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:30
Total/NA	ISM Prep	Increment, prep			594867	DRJ	EET CLE	11/16/23 16:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:08

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-16-2
Date Collected: 11/10/23 09:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-16-2
Date Collected: 11/10/23 09:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-11
Matrix: Solid
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 15:10
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:34
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:10

Client Sample ID: DU-16-3
Date Collected: 11/10/23 09:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-16-3
Date Collected: 11/10/23 09:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-12
Matrix: Solid
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 15:34
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:39
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:16

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-1
Date Collected: 11/10/23 10:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-17-1
Date Collected: 11/10/23 10:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-13
Matrix: Solid
Percent Solids: 97.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596471	JMG	EET CLE	12/04/23 17:30
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:43
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:18

Client Sample ID: DU-17-2
Date Collected: 11/10/23 10:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-17-2
Date Collected: 11/10/23 10:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-14
Matrix: Solid
Percent Solids: 97.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 16:22
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:47
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:20

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-17-3
Date Collected: 11/10/23 10:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-17-3
Date Collected: 11/10/23 10:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-15
Matrix: Solid
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 16:46
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:52
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 09:30
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:22

Client Sample ID: DU-18-1
Date Collected: 11/10/23 11:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-18-1
Date Collected: 11/10/23 11:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-16
Matrix: Solid
Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 17:10
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 13:56
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:24

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-18-2
Date Collected: 11/10/23 11:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-18-2
Date Collected: 11/10/23 11:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-17
Matrix: Solid
Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 17:34
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 14:01
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:26

Client Sample ID: DU-18-3
Date Collected: 11/10/23 11:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-18-3
Date Collected: 11/10/23 11:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-18
Matrix: Solid
Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596668	LKG	EET CLE	12/06/23 16:38
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 14:05
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:28

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-1
Date Collected: 11/10/23 12:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-19-1
Date Collected: 11/10/23 12:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-19
Matrix: Solid
Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 19:34
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 14:18
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:30

Client Sample ID: DU-19-2
Date Collected: 11/10/23 13:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-19-2
Date Collected: 11/10/23 13:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-20
Matrix: Solid
Percent Solids: 96.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595386	BV1	EET CLE	11/21/23 08:50
Total/NA	Analysis	8270E		1	596252	JMG	EET CLE	12/01/23 14:22
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595402	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 14:22
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595410	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 16:32

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-19-3
Date Collected: 11/10/23 13:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-19-3
Date Collected: 11/10/23 13:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-21
Matrix: Solid
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 16:13
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 10:59
Total/NA	ISM Prep	Increment, prep			594939	DRJ	EET CLE	11/17/23 17:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:13

Client Sample ID: DU-20-1
Date Collected: 11/09/23 14:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-20-1
Date Collected: 11/09/23 14:10
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-22
Matrix: Solid
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 16:37
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:20
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:20

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-20-2
Date Collected: 11/09/23 14:20
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-20-2
Date Collected: 11/09/23 14:20
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-23
Matrix: Solid
Percent Solids: 96.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 17:00
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:25
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:22

Client Sample ID: DU-20-3
Date Collected: 11/09/23 14:30
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-20-3
Date Collected: 11/09/23 14:30
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-24
Matrix: Solid
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 17:24
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:29
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:24

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-1
Date Collected: 11/10/23 14:40
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-21-1
Date Collected: 11/10/23 14:40
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-25
Matrix: Solid
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 17:48
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:42
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:26

Client Sample ID: DU-21-2
Date Collected: 11/10/23 14:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-21-2
Date Collected: 11/10/23 14:50
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-26
Matrix: Solid
Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 18:11
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:46
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:28

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-21-3
Date Collected: 11/10/23 15:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595315	VH6H	EET CLE	11/20/23 16:52

Client Sample ID: DU-21-3
Date Collected: 11/10/23 15:00
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-27
Matrix: Solid
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595418	BV1	EET CLE	11/21/23 09:59
Total/NA	Analysis	8270E		1	595743	JMG	EET CLE	11/27/23 18:35
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595416	BN	EET CLE	11/21/23 11:00
Total/NA	Analysis	6010D		1	595603	KLC	EET CLE	11/22/23 11:51
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595419	BN	EET CLE	11/21/23 12:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:34

Client Sample ID: DU-22-1
Date Collected: 11/10/23 15:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-22-1
Date Collected: 11/10/23 15:15
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-28
Matrix: Solid
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		4	595725	LKG	EET CLE	11/27/23 13:35
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 10:13
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 16:42
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:47

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-22-2
Date Collected: 11/10/23 15:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-29
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-22-2
Date Collected: 11/10/23 15:25
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-29
Matrix: Solid
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		4	595725	LKG	EET CLE	11/27/23 13:59
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 09:52
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 11:45
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:41

Client Sample ID: DU-22-3
Date Collected: 11/10/23 15:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-30
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-22-3
Date Collected: 11/10/23 15:35
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-30
Matrix: Solid
Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		4	595865	LKG	EET CLE	11/28/23 13:23
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 10:18
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		5	595857	KLC	EET CLE	11/27/23 16:55
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:49

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-1
Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-23-1
Date Collected: 11/10/23 15:45
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-31
Matrix: Solid
Percent Solids: 97.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep	RE		595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546	RE		596145	BV1	EET CLE	11/30/23 08:21
Total/NA	Analysis	8270E	RE	1	596471	JMG	EET CLE	12/04/23 18:18
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		1	595725	LKG	EET CLE	11/27/23 14:46
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 10:22
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:51

Client Sample ID: DU-23-2
Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-23-2
Date Collected: 11/10/23 15:55
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-32
Matrix: Solid
Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep	RE		595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546	RE		596145	BV1	EET CLE	11/30/23 08:21
Total/NA	Analysis	8270E	RE	1	596471	JMG	EET CLE	12/04/23 18:42
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		1	595725	LKG	EET CLE	11/27/23 15:09
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 10:27
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 14:53

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Client Sample ID: DU-23-3
Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Analysis	Moisture		1	595474	BLW	EET CLE	11/21/23 13:44

Client Sample ID: DU-23-3
Date Collected: 11/10/23 16:05
Date Received: 11/14/23 10:00

Lab Sample ID: 240-195376-33
Matrix: Solid
Percent Solids: 97.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep	RE		595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546	RE		596145	BV1	EET CLE	11/30/23 08:21
Total/NA	Analysis	8270E	RE	1	596471	JMG	EET CLE	12/04/23 19:06
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3546			595595	BV1	EET CLE	11/22/23 10:00
Total/NA	Analysis	8270E		1	595725	LKG	EET CLE	11/27/23 15:33
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	3050B			595542	BN	EET CLE	11/22/23 10:00
Total/NA	Analysis	6010D		1	595857	KLC	EET CLE	11/27/23 10:31
Total/NA	ISM Prep	Increment, prep			595183	DRJ	EET CLE	11/18/23 15:00
Total/NA	Prep	7471B			595548	BN	EET CLE	11/22/23 11:00
Total/NA	Analysis	7471B		1	595883	GK	EET CLE	11/27/23 15:00

Laboratory References:
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195376-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing

Client Information	Sampler: Macy Lamarsney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.5
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 5 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N		
DU-13-1	11/9/23	1715	C	Solid			X						X		
DU-13-2		1725		Solid											
DU-13-3		1735		Solid											
DU-14-1	11/10/23	0825		Solid											
DU-14-2		0835		Solid											
DU-14-3		0845		Solid											
DU-15-1		0855		Solid											
DU-15-2		0905		Solid											
DU-15-3		0915		Solid											
DU-16-1		0925		Solid											
DU-16-2		0935		Solid											

240-195376 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Macy Lamarsney	Date/Time: 11/10/23 1830	Company	Received by: [signature]	Date/Time: 11-14-23 1000	Company: EETAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

1 of 3

Ver: 06/08/2021

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Mary LaMasney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.1
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E							Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N								
DU-16-3	11/10/23	0945	C	Solid			X						X								
DU-17-1		1005		Solid																	
DU-17-2		1015		Solid																	
DU-17-3		1025		Solid																	
DU-18-1		1115		Solid																	
DU-18-2		1125		Solid																	
DU-18-3		1135		Solid																	
DU-19-1		1250		Solid																	
DU-19-2		1300		Solid																	
DU-19-3		1310		Solid																	
DU-20-1		1410		Solid																	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Mary La Masney	11/10/23 1830	Tetratech	[signature]	11-14-23 1000	EETNC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

2 of 3

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Mary La Masney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.2
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 2 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E							Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N								
PU-20-2	11/10/23	1420	C	Solid			X						X								
DU-20-3		1430		Solid																	
PU-21-1		1440		Solid																	
DU-21-2		1450		Solid																	
PU-21-3		1500		Solid																	
PU-22-1		1515		Solid																	
DU-22-2		1525		Solid																	
DU-22-3		1535		Solid																	
DU-23-1		1545		Solid																	
PU-23-2		1555		Solid																	
DU-23-3		1605		Solid																	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Mary La Masney	11/10/23 1830	Tetratech	[signature]	11-14-23 1000	EETDC

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

3 of 3

Eurofins – Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : 195376

Client Tetra Tech Site Name

Cooler Received on 11-14-23 Opened on 11-14-23

Cooler unpacked by: Nancy Ryle

FedEx: 1st Grd (Exp) UPS FAS Waypoint Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

Eurofins Cooler # EC ~~Foam~~ Box Client Cooler Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt 4.1 ☐ See Multiple Cooler Form
   IR GUN # 22 + 21 (CF -2.02 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 each (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? Yes (No)
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes (No)
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No (NA) pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes (No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)
17. Was a LL Hg or Me Hg trip blank present? Yes (No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

Broken lid - DU 14-3 Time 0845
Only have 4oz Jar - DU-23-2 Time 1555
Only have 1-4oz + 1-32oz Jar - DU-23-3
Time 1605

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : ____________

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
[✓ EC] Client Box Other	IR GUN #: 22	11.7	12.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	14.3	15.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	9.7	10.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	10.4	11.5	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	14.8	15.9	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	15.7	16.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	15.8	16.9	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	17.1	18.2	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	17.3	18.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	7.6	7.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	15.4	15.6	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	15.2	15.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	14.[illegible]	15.0	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	17.0	17.2	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	17.8	18.0	Wet Ice Blue Ice Dry Ice [✓ Water] None
EC Client Box Other	IR GUN #: 21	14.3	14.5	Wet Ice Blue Ice Dry Ice [✓ Water] None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #: ______			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

240-195376 Waybill

T 164 6 10:30 A 7896 11.14

FZ

Environment Testing
TestAmerica

134 MTW EXP 06/24

ORIG 77
EMILY FISHER / MACY LH MASNEY
TETRA TECH EM INC.
415 OAK STREET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

10 LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203
(330) 312-0176
REF: S240-113665

RMA

FedEx Express

E

TUE - 14 NOV AA
PRIORITY OVERNIGHT

FedEx
TRK# 0221 6549 1095 7896

XS CAKA

44203
OH-US
CLE

4498326 13Nov2023 MKCA 581G5/F0B2/C0B8

Login # : ______________

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp,°C	Corrected Temp °C	Coolant (Circle)
[✓ EC] Client Box Other	IR GUN #: 22	11.7	12.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	14.3	15.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	9.7	10.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	10.4	11.5	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	14.8	15.9	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	15.7	16.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	15.8	16.9	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	17.1	18.2	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 22	17.3	18.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	7.6	7.8	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	15.4	15.6	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	15.2	15.4	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	14.[illegible]	15.0	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	17.0	17.2	Wet Ice Blue Ice Dry Ice [✓ Water] None
[✓ EC] Client Box Other	IR GUN #: 21	17.8	18.0	Wet Ice Blue Ice Dry Ice [✓ Water] None
EC Client Box Other	IR GUN #: 21	14.3	14.5	Wet Ice Blue Ice Dry Ice [✓ Water] None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

240-195376 Waybill

T 164 6 10:30 A 7896 11.14

FZ

Environment Testing
TestAmerica

434 MTW EXP 06/24

ORIG /77
EMILY FISHER / MACY CA MASNEY
TETRA TECH EM INC.
415 OAK STREET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

TO LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203
(330) 312-0176
REF: S240-113665

RMA

FedEx Express

E

TUE - 14 NOV AA
PRIORITY OVERNIGHT

FedEx TRK# 0221 6549 1095 7896

XS CAKA

44203
OH-US
CLE

4498326 13Nov2023 MKCA 581G5/F0B2/C0B8

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/30/2023 2:46:41 PM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195184-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
11/30/2023 2:46:41 PM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-195184-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195184-1

Receipt
The samples were received on 11/10/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.6º C and 3.8º C.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 240-595569 recovered above the upper control limit for Atrazine. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: DU-24-1 (240-195184-1), DU-24-2 (240-195184-2) and DU-24-3 (240-195184-3).

Method 8270E: Surrogate recovery for the following sample was outside control limits: DU-24-1 (240-195184-1). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596028 recovered above the upper control limit for Atrazine. The sample associated with this CCV was non-detect for the affected analyte; therefore, the data have been reported. The associated sample is impacted: DU-24-1 (240-195184-1).

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-596028 recovered outside acceptance criteria, low biased, for 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol. A reporting limit (RL) standard was analyzed, and the target analytes were detected. Since the associated sample: DU-24-1 (240-195184-1) was non-detect for the analytes, the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010D: The continuing calibration verification (CCV) associated with batch 240-595164 recovered above the upper control limit for thallium. The samples associated with this CCV were below the reporting limit for the affected analytes; therefore, the data have been reported. The associated samples are impacted: DU-24-1 (240-195184-1), DU-24-2 (240-195184-2) and DU-24-3 (240-195184-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Method	Method Description	Protocol	Laboratory
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE
Increment, prep	ISM - Dry, Disaggregate, Sieve, 2 D Slabcake Subsample	EPA	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195184-1	DU-24-1	Solid	11/09/23 14:30	11/10/23 09:50
240-195184-2	DU-24-2	Solid	11/09/23 14:40	11/10/23 09:50
240-195184-3	DU-24-3	Solid	11/09/23 14:50	11/10/23 09:50

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1 — Lab Sample ID: 240-195184-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1090		269	94.0	ug/Kg	6.667	☼	8270E	Total/NA
Anthracene	2190		269	80.6	ug/Kg	6.667	☼	8270E	Total/NA
Benzo[a]anthracene	7700		269	101	ug/Kg	6.667	☼	8270E	Total/NA
Benzo[a]pyrene	5890		269	94.0	ug/Kg	6.667	☼	8270E	Total/NA
Benzo[b]fluoranthene	12800		269	80.6	ug/Kg	6.667	☼	8270E	Total/NA
Benzo[g,h,i]perylene	4550		269	181	ug/Kg	6.667	☼	8270E	Total/NA
Benzo[k]fluoranthene	3860		269	67.2	ug/Kg	6.667	☼	8270E	Total/NA
Carbazole	1350		672	181	ug/Kg	6.667	☼	8270E	Total/NA
Chrysene	10000		269	94.0	ug/Kg	6.667	☼	8270E	Total/NA
Dibenz(a,h)anthracene	1120		269	101	ug/Kg	6.667	☼	8270E	Total/NA
Dibenzofuran	572	J	672	195	ug/Kg	6.667	☼	8270E	Total/NA
Fluoranthene	14900		269	94.0	ug/Kg	6.667	☼	8270E	Total/NA
Fluorene	909		269	94.0	ug/Kg	6.667	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	3170		269	80.6	ug/Kg	6.667	☼	8270E	Total/NA
2-Methylnaphthalene	346		269	87.3	ug/Kg	6.667	☼	8270E	Total/NA
Naphthalene	463		269	87.3	ug/Kg	6.667	☼	8270E	Total/NA
Phenanthrene	10500		269	87.3	ug/Kg	6.667	☼	8270E	Total/NA
Pyrene	12500		269	107	ug/Kg	6.667	☼	8270E	Total/NA
Acenaphthene - RE	3850	H	805	282	ug/Kg	20	☼	8270E	Total/NA
Anthracene - RE	7300	H	805	242	ug/Kg	20	☼	8270E	Total/NA
Benzo[a]anthracene - RE	24900	H	805	302	ug/Kg	20	☼	8270E	Total/NA
Benzo[a]pyrene - RE	17800	H	805	282	ug/Kg	20	☼	8270E	Total/NA
Benzo[b]fluoranthene - RE	37300	H	805	242	ug/Kg	20	☼	8270E	Total/NA
Benzo[g,h,i]perylene - RE	14300	H	805	544	ug/Kg	20	☼	8270E	Total/NA
Benzo[k]fluoranthene - RE	12600	H	805	201	ug/Kg	20	☼	8270E	Total/NA
Carbazole - RE	4730	H	2010	544	ug/Kg	20	☼	8270E	Total/NA
Chrysene - RE	32100	H	805	282	ug/Kg	20	☼	8270E	Total/NA
Dibenz(a,h)anthracene - RE	3740	H	805	302	ug/Kg	20	☼	8270E	Total/NA
Dibenzofuran - RE	1800	J H	2010	584	ug/Kg	20	☼	8270E	Total/NA
Fluoranthene - RE	52200	H	805	282	ug/Kg	20	☼	8270E	Total/NA
Fluorene - RE	2840	H	805	282	ug/Kg	20	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene - RE	10600	H	805	242	ug/Kg	20	☼	8270E	Total/NA
2-Methylnaphthalene - RE	987	H	805	262	ug/Kg	20	☼	8270E	Total/NA
Naphthalene - RE	1240	H	805	262	ug/Kg	20	☼	8270E	Total/NA
Phenanthrene - RE	35300	H	805	262	ug/Kg	20	☼	8270E	Total/NA
Pyrene - RE	43900	H	805	322	ug/Kg	20	☼	8270E	Total/NA
Aluminum	4950		16.6	4.42	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.782	J F1	1.66	0.298	mg/Kg	1	☼	6010D	Total/NA
Arsenic	9.81		1.24	0.262	mg/Kg	1	☼	6010D	Total/NA
Barium	111		16.6	0.300	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.242	J	0.415	0.0448	mg/Kg	1	☼	6010D	Total/NA
Cadmium	33.2		0.415	0.0398	mg/Kg	1	☼	6010D	Total/NA
Calcium	101000		2070	151	mg/Kg	5	☼	6010D	Total/NA
Chromium	43.6		0.829	0.284	mg/Kg	1	☼	6010D	Total/NA
Cobalt	5.97		0.829	0.0614	mg/Kg	1	☼	6010D	Total/NA
Copper	48.7		10.4	0.979	mg/Kg	5	☼	6010D	Total/NA
Iron	16600	F2	16.6	5.76	mg/Kg	1	☼	6010D	Total/NA
Lead	1090		0.829	0.234	mg/Kg	1	☼	6010D	Total/NA
Magnesium	9090	F1	415	12.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	563		1.24	0.215	mg/Kg	1	☼	6010D	Total/NA
Nickel	35.3		3.32	0.411	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DU-24-1 (Continued) — Lab Sample ID: 240-195184-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	588		415	29.7	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.534	J	1.66	0.389	mg/Kg	1	☼	6010D	Total/NA
Silver	1.22		0.829	0.0672	mg/Kg	1	☼	6010D	Total/NA
Sodium	148	J B	415	118	mg/Kg	1	☼	6010D	Total/NA
Vanadium	30.3		4.15	0.682	mg/Kg	1	☼	6010D	Total/NA
Zinc	943		20.7	5.67	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.133	F1	0.0956	0.0172	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: DU-24-2 — Lab Sample ID: 240-195184-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1230		400	140	ug/Kg	10	☼	8270E	Total/NA
Anthracene	2860		400	120	ug/Kg	10	☼	8270E	Total/NA
Benzo[a]anthracene	13000		400	150	ug/Kg	10	☼	8270E	Total/NA
Benzo[a]pyrene	9320		400	140	ug/Kg	10	☼	8270E	Total/NA
Benzo[b]fluoranthene	20000		400	120	ug/Kg	10	☼	8270E	Total/NA
Benzo[g,h,i]perylene	7170		400	270	ug/Kg	10	☼	8270E	Total/NA
Benzo[k]fluoranthene	5190		400	99.9	ug/Kg	10	☼	8270E	Total/NA
Carbazole	1950		999	270	ug/Kg	10	☼	8270E	Total/NA
Chrysene	18400		400	140	ug/Kg	10	☼	8270E	Total/NA
Dibenz(a,h)anthracene	2350		400	150	ug/Kg	10	☼	8270E	Total/NA
Dibenzofuran	682	J	999	290	ug/Kg	10	☼	8270E	Total/NA
Fluoranthene	21700		400	140	ug/Kg	10	☼	8270E	Total/NA
Fluorene	1040		400	140	ug/Kg	10	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	4690		400	120	ug/Kg	10	☼	8270E	Total/NA
2-Methylnaphthalene	1010		400	130	ug/Kg	10	☼	8270E	Total/NA
Naphthalene	750		400	130	ug/Kg	10	☼	8270E	Total/NA
Phenanthrene	15300		400	130	ug/Kg	10	☼	8270E	Total/NA
Pyrene	19700		400	160	ug/Kg	10	☼	8270E	Total/NA
Aluminum	5160		16.7	4.46	mg/Kg	1	☼	6010D	Total/NA
Antimony	3.19		1.67	0.300	mg/Kg	1	☼	6010D	Total/NA
Arsenic	12.8		1.25	0.264	mg/Kg	1	☼	6010D	Total/NA
Barium	131		16.7	0.303	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.290	J	0.418	0.0451	mg/Kg	1	☼	6010D	Total/NA
Cadmium	53.6		0.418	0.0401	mg/Kg	1	☼	6010D	Total/NA
Calcium	91900		2090	152	mg/Kg	5	☼	6010D	Total/NA
Chromium	55.1		0.836	0.287	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.34		0.836	0.0619	mg/Kg	1	☼	6010D	Total/NA
Copper	44.4		10.4	0.986	mg/Kg	5	☼	6010D	Total/NA
Iron	17000		16.7	5.80	mg/Kg	1	☼	6010D	Total/NA
Lead	965		0.836	0.236	mg/Kg	1	☼	6010D	Total/NA
Magnesium	6940		418	12.8	mg/Kg	1	☼	6010D	Total/NA
Manganese	524		1.25	0.217	mg/Kg	1	☼	6010D	Total/NA
Nickel	47.4		3.34	0.415	mg/Kg	1	☼	6010D	Total/NA
Potassium	645		418	29.9	mg/Kg	1	☼	6010D	Total/NA
Silver	1.61		0.836	0.0677	mg/Kg	1	☼	6010D	Total/NA
Vanadium	30.2		4.18	0.687	mg/Kg	1	☼	6010D	Total/NA
Zinc	1370		20.9	5.71	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.162		0.105	0.0190	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-3 — Lab Sample ID: 240-195184-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	488		161	56.2	ug/Kg	4	☼	8270E	Total/NA
Anthracene	1170		161	48.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]anthracene	4160		161	60.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[a]pyrene	3300		161	56.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[b]fluoranthene	4860		161	48.2	ug/Kg	4	☼	8270E	Total/NA
Benzo[g,h,i]perylene	2980		161	108	ug/Kg	4	☼	8270E	Total/NA
Benzo[k]fluoranthene	1670		161	40.2	ug/Kg	4	☼	8270E	Total/NA
Carbazole	814		402	108	ug/Kg	4	☼	8270E	Total/NA
Chrysene	5530		161	56.2	ug/Kg	4	☼	8270E	Total/NA
Dibenz(a,h)anthracene	1020		161	60.2	ug/Kg	4	☼	8270E	Total/NA
Dibenzofuran	300	J	402	116	ug/Kg	4	☼	8270E	Total/NA
Fluoranthene	7550		161	56.2	ug/Kg	4	☼	8270E	Total/NA
Fluorene	462		161	56.2	ug/Kg	4	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	1830		161	48.2	ug/Kg	4	☼	8270E	Total/NA
2-Methylnaphthalene	798		161	52.2	ug/Kg	4	☼	8270E	Total/NA
Naphthalene	577		161	52.2	ug/Kg	4	☼	8270E	Total/NA
Phenanthrene	7470		161	52.2	ug/Kg	4	☼	8270E	Total/NA
Pyrene	7440		161	64.3	ug/Kg	4	☼	8270E	Total/NA
Aluminum	5380		16.0	4.25	mg/Kg	1	☼	6010D	Total/NA
Antimony	10.5		1.60	0.286	mg/Kg	1	☼	6010D	Total/NA
Arsenic	12.1		1.20	0.252	mg/Kg	1	☼	6010D	Total/NA
Barium	181		16.0	0.289	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.337	J	0.399	0.0431	mg/Kg	1	☼	6010D	Total/NA
Cadmium	35.6		0.399	0.0383	mg/Kg	1	☼	6010D	Total/NA
Calcium	67100		1990	145	mg/Kg	5	☼	6010D	Total/NA
Chromium	39.0		0.798	0.274	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.44		0.798	0.0590	mg/Kg	1	☼	6010D	Total/NA
Copper	38.1		9.97	0.941	mg/Kg	5	☼	6010D	Total/NA
Iron	12000		16.0	5.54	mg/Kg	1	☼	6010D	Total/NA
Lead	1060		0.798	0.225	mg/Kg	1	☼	6010D	Total/NA
Magnesium	5690		399	12.2	mg/Kg	1	☼	6010D	Total/NA
Manganese	529		1.20	0.207	mg/Kg	1	☼	6010D	Total/NA
Nickel	30.2		3.19	0.396	mg/Kg	1	☼	6010D	Total/NA
Potassium	666		399	28.5	mg/Kg	1	☼	6010D	Total/NA
Silver	1.39		0.798	0.0646	mg/Kg	1	☼	6010D	Total/NA
Vanadium	24.5		3.99	0.656	mg/Kg	1	☼	6010D	Total/NA
Zinc	1330		19.9	5.45	mg/Kg	5	☼	6010D	Total/NA
Mercury	0.236		0.104	0.0187	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1

Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1

Matrix: Solid
Percent Solids: 98.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1090**		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Acenaphthylene	ND		269	101	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Acetophenone	ND		672	168	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Anthracene	**2190**		269	80.6	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Atrazine	ND		2220	463	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzaldehyde	ND		2220	376	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzo[a]anthracene	**7700**		269	101	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzo[a]pyrene	**5890**		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzo[b]fluoranthene	**12800**		269	80.6	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzo[g,h,i]perylene	**4550**		269	181	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Benzo[k]fluoranthene	**3860**		269	67.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
1,1'-Biphenyl	ND		672	188	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Bis(2-chloroethoxy)methane	ND		672	134	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Bis(2-chloroethyl)ether	ND		672	148	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
bis (2-chloroisopropyl) ether	ND		672	175	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Bis(2-ethylhexyl) phthalate	ND		1010	376	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Bromophenyl phenyl ether	ND		672	215	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Butyl benzyl phthalate	ND		1010	342	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Caprolactam	ND		2220	463	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Carbazole	**1350**		672	181	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Chloroaniline	ND		1010	107	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Chloro-3-methylphenol	ND		1010	255	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Chloronaphthalene	ND		672	188	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Chlorophenol	ND		672	175	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Chlorophenyl phenyl ether	ND		672	188	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Chrysene	**10000**		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Dibenz(a,h)anthracene	**1120**		269	101	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Dibenzofuran	**572**	**J**	672	195	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
3,3'-Dichlorobenzidine	ND		1010	638	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4-Dichlorophenol	ND		1010	181	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Diethyl phthalate	ND		1010	289	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4-Dimethylphenol	ND		1010	242	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Dimethyl phthalate	ND		1010	269	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Di-n-butyl phthalate	ND		1010	161	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4,6-Dinitro-2-methylphenol	ND		2220	698	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4-Dinitrophenol	ND		2220	1150	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4-Dinitrotoluene	ND		1340	154	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,6-Dinitrotoluene	ND		1340	242	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Di-n-octyl phthalate	ND		1010	336	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Fluoranthene	**14900**		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Fluorene	**909**		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Hexachlorobenzene	ND		269	94.0	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Hexachlorobutadiene	ND		672	141	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Hexachlorocyclopentadiene	ND		2220	262	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Hexachloroethane	ND		672	215	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Indeno[1,2,3-cd]pyrene	**3170**		269	80.6	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Isophorone	ND		672	175	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Methylnaphthalene	**346**		269	87.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Methylphenol	ND		1340	275	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1

Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1

Matrix: Solid
Percent Solids: 98.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		2690	275	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Naphthalene	**463**		269	87.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Nitroaniline	ND		1340	255	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
3-Nitroaniline	ND		1340	235	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Nitroaniline	ND		1340	175	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Nitrobenzene	ND		672	148	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2-Nitrophenol	ND		672	235	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
4-Nitrophenol	ND		2220	604	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
N-Nitrosodi-n-propylamine	ND		672	248	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
N-Nitrosodiphenylamine	ND		672	181	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Pentachlorophenol	ND		1810	705	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Phenanthrene	**10500**		269	87.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Phenol	ND		672	255	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
Pyrene	**12500**		269	107	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4,5-Trichlorophenol	ND		1010	222	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667
2,4,6-Trichlorophenol	ND		1010	195	ug/Kg	☼	11/20/23 10:34	11/22/23 20:45	6.667

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*15*	*S1-*	*34 - 120*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*
2-Fluorophenol (Surr)	*12*	*S1-*	*20 - 120*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*
Nitrobenzene-d5 (Surr)	*14*	*S1-*	*25 - 120*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*
Phenol-d5 (Surr)	*13*	*S1-*	*26 - 120*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*
Terphenyl-d14 (Surr)	*18*	*S1-*	*46 - 137*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*
2,4,6-Tribromophenol (Surr)	*6*	*S1-*	*10 - 120*	*11/20/23 10:34*	*11/22/23 20:45*	*6.667*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**3850**	**H**	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Acenaphthylene	ND	H	805	302	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Acetophenone	ND	H	2010	503	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Anthracene	**7300**	**H**	805	242	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Atrazine	ND	H	6640	1390	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzaldehyde	ND	H	6640	1130	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzo[a]anthracene	**24900**	**H**	805	302	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzo[a]pyrene	**17800**	**H**	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzo[b]fluoranthene	**37300**	**H**	805	242	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzo[g,h,i]perylene	**14300**	**H**	805	544	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Benzo[k]fluoranthene	**12600**	**H**	805	201	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
1,1'-Biphenyl	ND	H	2010	564	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Bis(2-chloroethoxy)methane	ND	H	2010	403	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Bis(2-chloroethyl)ether	ND	H	2010	443	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
bis (2-chloroisopropyl) ether	ND	H	2010	523	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Bis(2-ethylhexyl) phthalate	ND	H	3020	1130	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Bromophenyl phenyl ether	ND	H	2010	644	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Butyl benzyl phthalate	ND	H	3020	1030	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Caprolactam	ND	H	6640	1390	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Carbazole	**4730**	**H**	2010	544	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Chloroaniline	ND	H	3020	322	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Chloro-3-methylphenol	ND	H	3020	765	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2-Chloronaphthalene	ND	H	2010	564	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1

Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1

Matrix: Solid
Percent Solids: 98.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	2010	523	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Chlorophenyl phenyl ether	ND	H	2010	564	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Chrysene	**32100**	**H**	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Dibenz(a,h)anthracene	**3740**	**H**	805	302	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Dibenzofuran	**1800**	**J H**	2010	584	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
3,3'-Dichlorobenzidine	ND	H	3020	1910	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4-Dichlorophenol	ND	H	3020	544	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Diethyl phthalate	ND	H	3020	866	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4-Dimethylphenol	ND	H	3020	725	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Dimethyl phthalate	ND	H	3020	805	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Di-n-butyl phthalate	ND	H	3020	483	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4,6-Dinitro-2-methylphenol	ND	H	6640	2090	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4-Dinitrophenol	ND	H	6640	3440	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4-Dinitrotoluene	ND	H	4030	463	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,6-Dinitrotoluene	ND	H	4030	725	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Di-n-octyl phthalate	ND	H	3020	1010	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Fluoranthene	**52200**	**H**	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Fluorene	**2840**	**H**	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Hexachlorobenzene	ND	H	805	282	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Hexachlorobutadiene	ND	H	2010	423	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Hexachlorocyclopentadiene	ND	H	6640	785	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Hexachloroethane	ND	H	2010	644	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Indeno[1,2,3-cd]pyrene	**10600**	**H**	805	242	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Isophorone	ND	H	2010	523	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2-Methylnaphthalene	**987**	**H**	805	262	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2-Methylphenol	ND	H	4030	825	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
3 & 4 Methylphenol	ND	H	8050	825	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Naphthalene	**1240**	**H**	805	262	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2-Nitroaniline	ND	H	4030	765	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
3-Nitroaniline	ND	H	4030	705	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Nitroaniline	ND	H	4030	523	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Nitrobenzene	ND	H	2010	443	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2-Nitrophenol	ND	H	2010	705	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
4-Nitrophenol	ND	H	6640	1810	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
N-Nitrosodi-n-propylamine	ND	H	2010	745	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
N-Nitrosodiphenylamine	ND	H	2010	544	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Pentachlorophenol	ND	H	5440	2110	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Phenanthrene	**35300**	**H**	805	262	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Phenol	ND	H	2010	765	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
Pyrene	**43900**	**H**	805	322	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4,5-Trichlorophenol	ND	H	3020	664	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20
2,4,6-Trichlorophenol	ND	H	3020	584	ug/Kg	☼	11/28/23 09:06	11/29/23 12:46	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*66*		*34 - 120*	*11/28/23 09:06*	*11/29/23 12:46*	*20*
2-Fluorophenol (Surr)	*46*		*20 - 120*	*11/28/23 09:06*	*11/29/23 12:46*	*20*
Nitrobenzene-d5 (Surr)	*57*		*25 - 120*	*11/28/23 09:06*	*11/29/23 12:46*	*20*
Phenol-d5 (Surr)	*44*		*26 - 120*	*11/28/23 09:06*	*11/29/23 12:46*	*20*
Terphenyl-d14 (Surr)	*66*		*46 - 137*	*11/28/23 09:06*	*11/29/23 12:46*	*20*
2,4,6-Tribromophenol (Surr)	*26*		*10 - 120*	*11/28/23 09:06*	*11/29/23 12:46*	*20*

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1

Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1

Matrix: Solid
Percent Solids: 98.0

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4950		16.6	4.42	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Antimony	0.782	J F1	1.66	0.298	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Arsenic	9.81		1.24	0.262	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Barium	111		16.6	0.300	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Beryllium	0.242	J	0.415	0.0448	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Cadmium	33.2		0.415	0.0398	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Calcium	101000		2070	151	mg/Kg	☼	11/17/23 15:00	11/20/23 08:38	5
Chromium	43.6		0.829	0.284	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Cobalt	5.97		0.829	0.0614	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Copper	48.7		10.4	0.979	mg/Kg	☼	11/17/23 15:00	11/20/23 08:38	5
Iron	16600	F2	16.6	5.76	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Lead	1090		0.829	0.234	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Magnesium	9090	F1	415	12.7	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Manganese	563		1.24	0.215	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Nickel	35.3		3.32	0.411	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Potassium	588		415	29.7	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Selenium	0.534	J	1.66	0.389	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Silver	1.22		0.829	0.0672	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Sodium	148	J B	415	118	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Thallium	ND	^+	1.66	0.331	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Vanadium	30.3		4.15	0.682	mg/Kg	☼	11/17/23 15:00	11/19/23 15:04	1
Zinc	943		20.7	5.67	mg/Kg	☼	11/17/23 15:00	11/20/23 08:38	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.133	F1	0.0956	0.0172	mg/Kg	☼	11/17/23 15:00	11/21/23 18:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	98.0		0.1	0.1	%			11/17/23 10:44	1
Percent Moisture (EPA Moisture)	2.0		0.1	0.1	%			11/17/23 10:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-2

Date Collected: 11/09/23 14:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-2

Matrix: Solid
Percent Solids: 98.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1230**		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Acenaphthylene	ND		400	150	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Acetophenone	ND		999	250	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Anthracene	**2860**		400	120	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Atrazine	ND		3300	689	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzaldehyde	ND		3300	560	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzo[a]anthracene	**13000**		400	150	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzo[a]pyrene	**9320**		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzo[b]fluoranthene	**20000**		400	120	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzo[g,h,i]perylene	**7170**		400	270	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Benzo[k]fluoranthene	**5190**		400	99.9	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
1,1'-Biphenyl	ND		999	280	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Bis(2-chloroethoxy)methane	ND		999	200	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Bis(2-chloroethyl)ether	ND		999	220	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
bis (2-chloroisopropyl) ether	ND		999	260	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Bis(2-ethylhexyl) phthalate	ND		1500	560	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Bromophenyl phenyl ether	ND		999	320	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Butyl benzyl phthalate	ND		1500	510	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Caprolactam	ND		3300	689	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Carbazole	**1950**		999	270	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Chloroaniline	ND		1500	160	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Chloro-3-methylphenol	ND		1500	380	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Chloronaphthalene	ND		999	280	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Chlorophenol	ND		999	260	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Chlorophenyl phenyl ether	ND		999	280	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Chrysene	**18400**		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Dibenz(a,h)anthracene	**2350**		400	150	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Dibenzofuran	**682**	**J**	999	290	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
3,3'-Dichlorobenzidine	ND		1500	949	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4-Dichlorophenol	ND		1500	270	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Diethyl phthalate	ND		1500	430	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4-Dimethylphenol	ND		1500	360	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Dimethyl phthalate	ND		1500	400	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Di-n-butyl phthalate	ND		1500	240	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4,6-Dinitro-2-methylphenol	ND		3300	1040	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4-Dinitrophenol	ND		3300	1710	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4-Dinitrotoluene	ND		2000	230	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,6-Dinitrotoluene	ND		2000	360	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Di-n-octyl phthalate	ND		1500	500	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Fluoranthene	**21700**		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Fluorene	**1040**		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Hexachlorobenzene	ND		400	140	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Hexachlorobutadiene	ND		999	210	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Hexachlorocyclopentadiene	ND		3300	390	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Hexachloroethane	ND		999	320	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Indeno[1,2,3-cd]pyrene	**4690**		400	120	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Isophorone	ND		999	260	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Methylnaphthalene	**1010**		400	130	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Methylphenol	ND		2000	410	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-2

Date Collected: 11/09/23 14:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-2

Matrix: Solid
Percent Solids: 98.1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		4000	410	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Naphthalene	**750**		400	130	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Nitroaniline	ND		2000	380	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
3-Nitroaniline	ND		2000	350	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Nitroaniline	ND		2000	260	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Nitrobenzene	ND		999	220	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2-Nitrophenol	ND		999	350	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
4-Nitrophenol	ND		3300	899	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
N-Nitrosodi-n-propylamine	ND		999	370	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
N-Nitrosodiphenylamine	ND		999	270	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Pentachlorophenol	ND		2700	1050	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Phenanthrene	**15300**		400	130	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Phenol	ND		999	380	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
Pyrene	**19700**		400	160	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4,5-Trichlorophenol	ND		1500	330	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10
2,4,6-Trichlorophenol	ND		1500	290	ug/Kg	☼	11/20/23 10:34	11/22/23 21:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*37*		*34 - 120*	*11/20/23 10:34*	*11/22/23 21:09*	*10*
2-Fluorophenol (Surr)	*28*		*20 - 120*	*11/20/23 10:34*	*11/22/23 21:09*	*10*
Nitrobenzene-d5 (Surr)	*36*		*25 - 120*	*11/20/23 10:34*	*11/22/23 21:09*	*10*
Phenol-d5 (Surr)	*31*		*26 - 120*	*11/20/23 10:34*	*11/22/23 21:09*	*10*
Terphenyl-d14 (Surr)	*42*	*S1-*	*46 - 137*	*11/20/23 10:34*	*11/22/23 21:09*	*10*
2,4,6-Tribromophenol (Surr)	*18*		*10 - 120*	*11/20/23 10:34*	*11/22/23 21:09*	*10*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5160**		16.7	4.46	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Antimony	**3.19**		1.67	0.300	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Arsenic	**12.8**		1.25	0.264	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Barium	**131**		16.7	0.303	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Beryllium	**0.290**	**J**	0.418	0.0451	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Cadmium	**53.6**		0.418	0.0401	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Calcium	**91900**		2090	152	mg/Kg	☼	11/17/23 15:00	11/20/23 09:09	5
Chromium	**55.1**		0.836	0.287	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Cobalt	**6.34**		0.836	0.0619	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Copper	**44.4**		10.4	0.986	mg/Kg	☼	11/17/23 15:00	11/20/23 09:09	5
Iron	**17000**		16.7	5.80	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Lead	**965**		0.836	0.236	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Magnesium	**6940**		418	12.8	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Manganese	**524**		1.25	0.217	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Nickel	**47.4**		3.34	0.415	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Potassium	**645**		418	29.9	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Selenium	ND		1.67	0.392	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Silver	**1.61**		0.836	0.0677	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Sodium	ND		418	119	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Thallium	ND	^+	1.67	0.334	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Vanadium	**30.2**		4.18	0.687	mg/Kg	☼	11/17/23 15:00	11/19/23 15:35	1
Zinc	**1370**		20.9	5.71	mg/Kg	☼	11/17/23 15:00	11/20/23 09:09	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-2

Date Collected: 11/09/23 14:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-2

Matrix: Solid
Percent Solids: 98.1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.162		0.105	0.0190	mg/Kg	☼	11/17/23 15:00	11/21/23 18:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	98.1		0.1	0.1	%			11/17/23 10:44	1
Percent Moisture (EPA Moisture)	1.9		0.1	0.1	%			11/17/23 10:44	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-3

Date Collected: 11/09/23 14:50
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-3

Matrix: Solid
Percent Solids: 98.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**488**		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Acenaphthylene	ND		161	60.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Acetophenone	ND		402	100	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Anthracene	**1170**		161	48.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Atrazine	ND		1330	277	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzaldehyde	ND		1330	225	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzo[a]anthracene	**4160**		161	60.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzo[a]pyrene	**3300**		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzo[b]fluoranthene	**4860**		161	48.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzo[g,h,i]perylene	**2980**		161	108	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Benzo[k]fluoranthene	**1670**		161	40.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
1,1'-Biphenyl	ND		402	112	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Bis(2-chloroethoxy)methane	ND		402	80.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Bis(2-chloroethyl)ether	ND		402	88.4	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
bis (2-chloroisopropyl) ether	ND		402	104	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Bis(2-ethylhexyl) phthalate	ND		602	225	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Bromophenyl phenyl ether	ND		402	129	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Butyl benzyl phthalate	ND		602	205	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Caprolactam	ND		1330	277	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Carbazole	**814**		402	108	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Chloroaniline	ND		602	64.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Chloro-3-methylphenol	ND		602	153	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Chloronaphthalene	ND		402	112	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Chlorophenol	ND		402	104	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Chlorophenyl phenyl ether	ND		402	112	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Chrysene	**5530**		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Dibenz(a,h)anthracene	**1020**		161	60.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Dibenzofuran	**300**	**J**	402	116	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
3,3'-Dichlorobenzidine	ND		602	382	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4-Dichlorophenol	ND		602	108	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Diethyl phthalate	ND		602	173	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4-Dimethylphenol	ND		602	145	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Dimethyl phthalate	ND		602	161	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Di-n-butyl phthalate	ND		602	96.4	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4,6-Dinitro-2-methylphenol	ND		1330	418	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4-Dinitrophenol	ND		1330	687	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4-Dinitrotoluene	ND		803	92.4	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,6-Dinitrotoluene	ND		803	145	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Di-n-octyl phthalate	ND		602	201	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Fluoranthene	**7550**		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Fluorene	**462**		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Hexachlorobenzene	ND		161	56.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Hexachlorobutadiene	ND		402	84.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Hexachlorocyclopentadiene	ND		1330	157	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Hexachloroethane	ND		402	129	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Indeno[1,2,3-cd]pyrene	**1830**		161	48.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Isophorone	ND		402	104	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Methylnaphthalene	**798**		161	52.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Methylphenol	ND		803	165	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-3

Date Collected: 11/09/23 14:50
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-3

Matrix: Solid
Percent Solids: 98.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		1610	165	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Naphthalene	**577**		161	52.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Nitroaniline	ND		803	153	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
3-Nitroaniline	ND		803	141	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Nitroaniline	ND		803	104	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Nitrobenzene	ND		402	88.4	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2-Nitrophenol	ND		402	141	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
4-Nitrophenol	ND		1330	361	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
N-Nitrosodi-n-propylamine	ND		402	149	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
N-Nitrosodiphenylamine	ND		402	108	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Pentachlorophenol	ND		1080	422	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Phenanthrene	**7470**		161	52.2	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Phenol	ND		402	153	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
Pyrene	**7440**		161	64.3	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4,5-Trichlorophenol	ND		602	133	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4
2,4,6-Trichlorophenol	ND		602	116	ug/Kg	☼	11/20/23 10:34	11/22/23 20:21	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*34*		*34 - 120*	*11/20/23 10:34*	*11/22/23 20:21*	*4*
2-Fluorophenol (Surr)	*29*		*20 - 120*	*11/20/23 10:34*	*11/22/23 20:21*	*4*
Nitrobenzene-d5 (Surr)	*33*		*25 - 120*	*11/20/23 10:34*	*11/22/23 20:21*	*4*
Phenol-d5 (Surr)	*31*		*26 - 120*	*11/20/23 10:34*	*11/22/23 20:21*	*4*
Terphenyl-d14 (Surr)	*38*	*S1-*	*46 - 137*	*11/20/23 10:34*	*11/22/23 20:21*	*4*
2,4,6-Tribromophenol (Surr)	*21*		*10 - 120*	*11/20/23 10:34*	*11/22/23 20:21*	*4*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**5380**		16.0	4.25	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Antimony	**10.5**		1.60	0.286	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Arsenic	**12.1**		1.20	0.252	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Barium	**181**		16.0	0.289	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Beryllium	**0.337**	**J**	0.399	0.0431	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Cadmium	**35.6**		0.399	0.0383	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Calcium	**67100**		1990	145	mg/Kg	☼	11/17/23 15:00	11/20/23 09:14	5
Chromium	**39.0**		0.798	0.274	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Cobalt	**6.44**		0.798	0.0590	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Copper	**38.1**		9.97	0.941	mg/Kg	☼	11/17/23 15:00	11/20/23 09:14	5
Iron	**12000**		16.0	5.54	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Lead	**1060**		0.798	0.225	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Magnesium	**5690**		399	12.2	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Manganese	**529**		1.20	0.207	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Nickel	**30.2**		3.19	0.396	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Potassium	**666**		399	28.5	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Selenium	ND		1.60	0.374	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Silver	**1.39**		0.798	0.0646	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Sodium	ND		399	113	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Thallium	ND	^+	1.60	0.318	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Vanadium	**24.5**		3.99	0.656	mg/Kg	☼	11/17/23 15:00	11/19/23 15:39	1
Zinc	**1330**		19.9	5.45	mg/Kg	☼	11/17/23 15:00	11/20/23 09:14	5

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-3

Date Collected: 11/09/23 14:50
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-3

Matrix: Solid
Percent Solids: 98.0

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.236		0.104	0.0187	mg/Kg	☼	11/17/23 15:00	11/21/23 18:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	98.0		0.1	0.1	%			11/17/23 10:44	1
Percent Moisture (EPA Moisture)	2.0		0.1	0.1	%			11/17/23 10:44	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	**Client Sample ID**	**(34-120)**	**(20-120)**	**(25-120)**	**(26-120)**	**(46-137)**	**(10-120)**
240-195184-1	DU-24-1	15 S1-	12 S1-	14 S1-	13 S1-	18 S1-	6 S1-
240-195184-1 - RE	DU-24-1	66	46	57	44	66	26
240-195184-2	DU-24-2	37	28	36	31	42 S1-	18
240-195184-3	DU-24-3	34	29	33	31	38 S1-	21
LCS 240-595256/2-A	Lab Control Sample	70	65	74	71	77	74
LCS 240-595915/2-A	Lab Control Sample	73	70	75	75	75	80
MB 240-595256/1-A	Method Blank	61	60	61	65	65	56
MB 240-595915/1-A	Method Blank	70	70	71	73	74	59

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-595256/1-A
Matrix: Solid
Analysis Batch: 595385

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Acetophenone	ND		100	25.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Anthracene	ND		40.0	12.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Atrazine	ND		330	69.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Caprolactam	ND		330	69.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Carbazole	ND		100	27.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Chrysene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Fluorene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Isophorone	ND		100	26.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595256/1-A
Matrix: Solid
Analysis Batch: 595385

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		200	41.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Pentachlorophenol	ND		270	105	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Phenol	ND		100	38.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
Pyrene	ND		40.0	16.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/20/23 10:34	11/21/23 11:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*34 - 120*	*11/20/23 10:34*	*11/21/23 11:55*	*1*
2-Fluorophenol (Surr)	*60*		*20 - 120*	*11/20/23 10:34*	*11/21/23 11:55*	*1*
Nitrobenzene-d5 (Surr)	*61*		*25 - 120*	*11/20/23 10:34*	*11/21/23 11:55*	*1*
Phenol-d5 (Surr)	*65*		*26 - 120*	*11/20/23 10:34*	*11/21/23 11:55*	*1*
Terphenyl-d14 (Surr)	*65*		*46 - 137*	*11/20/23 10:34*	*11/21/23 11:55*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*10 - 120*	*11/20/23 10:34*	*11/21/23 11:55*	*1*

Lab Sample ID: LCS 240-595256/2-A
Matrix: Solid
Analysis Batch: 595385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	1057		ug/Kg		79	52 - 120
Acenaphthylene	1330	1019		ug/Kg		76	52 - 120
Acetophenone	1330	1009		ug/Kg		76	47 - 120
Anthracene	1330	1035		ug/Kg		78	64 - 120
Atrazine	2670	2447		ug/Kg		92	71 - 125
Benzaldehyde	2670	2068		ug/Kg		78	42 - 120
Benzo[a]anthracene	1330	1080		ug/Kg		81	70 - 120
Benzo[a]pyrene	1330	977.5		ug/Kg		73	63 - 125
Benzo[b]fluoranthene	1330	1080		ug/Kg		81	64 - 121
Benzo[g,h,i]perylene	1330	1067		ug/Kg		80	62 - 120
Benzo[k]fluoranthene	1330	1085		ug/Kg		81	63 - 128
1,1'-Biphenyl	1330	1011		ug/Kg		76	50 - 120
Bis(2-chloroethoxy)methane	1330	1058		ug/Kg		79	50 - 120
Bis(2-chloroethyl)ether	1330	918.2		ug/Kg		69	42 - 120
bis (2-chloroisopropyl) ether	1330	1019		ug/Kg		76	38 - 120
Bis(2-ethylhexyl) phthalate	1330	1052		ug/Kg		79	63 - 133
4-Bromophenyl phenyl ether	1330	1018		ug/Kg		76	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595256/2-A
Matrix: Solid
Analysis Batch: 595385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butyl benzyl phthalate	1330	1095		ug/Kg		82	66 - 127
Caprolactam	2670	2145		ug/Kg		80	67 - 120
Carbazole	1330	1083		ug/Kg		81	61 - 129
4-Chloroaniline	1330	621.4		ug/Kg		47	29 - 120
4-Chloro-3-methylphenol	1330	1115		ug/Kg		84	51 - 120
2-Chloronaphthalene	1330	1006		ug/Kg		75	51 - 120
2-Chlorophenol	1330	975.8		ug/Kg		73	47 - 120
4-Chlorophenyl phenyl ether	1330	1057		ug/Kg		79	59 - 120
Chrysene	1330	1059		ug/Kg		79	67 - 120
Dibenz(a,h)anthracene	1330	1059		ug/Kg		79	62 - 120
Dibenzofuran	1330	1031		ug/Kg		77	55 - 120
3,3'-Dichlorobenzidine	2670	1742		ug/Kg		65	27 - 199
2,4-Dichlorophenol	1330	1051		ug/Kg		79	50 - 120
Diethyl phthalate	1330	1106		ug/Kg		83	61 - 120
2,4-Dimethylphenol	1330	881.4		ug/Kg		66	24 - 120
Dimethyl phthalate	1330	1071		ug/Kg		80	64 - 120
Di-n-butyl phthalate	1330	1120		ug/Kg		84	70 - 129
4,6-Dinitro-2-methylphenol	2670	663.4		ug/Kg		25	10 - 120
2,4-Dinitrophenol	2670	375.0		ug/Kg		14	10 - 120
2,4-Dinitrotoluene	1330	1115		ug/Kg		84	64 - 120
2,6-Dinitrotoluene	1330	1113		ug/Kg		83	62 - 120
Di-n-octyl phthalate	1330	1065		ug/Kg		80	64 - 129
Fluoranthene	1330	1101		ug/Kg		83	71 - 124
Fluorene	1330	1036		ug/Kg		78	58 - 120
Hexachlorobenzene	1330	956.9		ug/Kg		72	59 - 120
Hexachlorobutadiene	1330	1059		ug/Kg		79	45 - 120
Hexachlorocyclopentadiene	1330	549.8		ug/Kg		41	10 - 120
Hexachloroethane	1330	968.5		ug/Kg		73	39 - 120
Indeno[1,2,3-cd]pyrene	1330	949.5		ug/Kg		71	65 - 122
Isophorone	1330	1101		ug/Kg		83	50 - 120
2-Methylnaphthalene	1330	1024		ug/Kg		77	38 - 120
2-Methylphenol	1330	984.8		ug/Kg		74	45 - 120
3 & 4 Methylphenol	1330	981.4		ug/Kg		74	49 - 120
Naphthalene	1330	985.7		ug/Kg		74	34 - 120
2-Nitroaniline	1330	1230		ug/Kg		92	57 - 120
3-Nitroaniline	1330	843.4		ug/Kg		63	41 - 120
4-Nitroaniline	1330	1039		ug/Kg		78	48 - 128
Nitrobenzene	1330	1101		ug/Kg		83	48 - 120
2-Nitrophenol	1330	1122		ug/Kg		84	51 - 120
4-Nitrophenol	2670	2404		ug/Kg		90	43 - 120
N-Nitrosodi-n-propylamine	1330	1106		ug/Kg		83	48 - 120
N-Nitrosodiphenylamine	1330	1047		ug/Kg		79	64 - 120
Pentachlorophenol	2670	1536		ug/Kg		58	10 - 120
Phenanthrene	1330	1004		ug/Kg		75	60 - 120
Phenol	1330	995.0		ug/Kg		75	48 - 120
Pyrene	1330	1115		ug/Kg		84	67 - 120
2,4,5-Trichlorophenol	1330	1088		ug/Kg		82	50 - 120
2,4,6-Trichlorophenol	1330	1093		ug/Kg		82	50 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595256/2-A
Matrix: Solid
Analysis Batch: 595385

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595256

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	70		34 - 120
2-Fluorophenol (Surr)	65		20 - 120
Nitrobenzene-d5 (Surr)	74		25 - 120
Phenol-d5 (Surr)	71		26 - 120
Terphenyl-d14 (Surr)	77		46 - 137
2,4,6-Tribromophenol (Surr)	74		10 - 120

Lab Sample ID: MB 240-595915/1-A
Matrix: Solid
Analysis Batch: 596028

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595915

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Acetophenone	ND		100	25.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Anthracene	ND		40.0	12.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Atrazine	ND		330	69.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Caprolactam	ND		330	69.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Carbazole	ND		100	27.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Chrysene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Di-n-butyl phthalate	ND		150	24.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/28/23 09:06	11/29/23 10:41	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-595915/1-A
Matrix: Solid
Analysis Batch: 596028

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595915

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Fluorene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Isophorone	ND		100	26.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Pentachlorophenol	ND		270	105	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Phenol	ND		100	38.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
Pyrene	ND		40.0	16.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/28/23 09:06	11/29/23 10:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*34 - 120*	*11/28/23 09:06*	*11/29/23 10:41*	*1*
2-Fluorophenol (Surr)	*70*		*20 - 120*	*11/28/23 09:06*	*11/29/23 10:41*	*1*
Nitrobenzene-d5 (Surr)	*71*		*25 - 120*	*11/28/23 09:06*	*11/29/23 10:41*	*1*
Phenol-d5 (Surr)	*73*		*26 - 120*	*11/28/23 09:06*	*11/29/23 10:41*	*1*
Terphenyl-d14 (Surr)	*74*		*46 - 137*	*11/28/23 09:06*	*11/29/23 10:41*	*1*
2,4,6-Tribromophenol (Surr)	*59*		*10 - 120*	*11/28/23 09:06*	*11/29/23 10:41*	*1*

Lab Sample ID: LCS 240-595915/2-A
Matrix: Solid
Analysis Batch: 596028

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595915

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	977.5		ug/Kg		73	52 - 120
Acenaphthylene	1330	930.0		ug/Kg		70	52 - 120
Acetophenone	1330	970.1		ug/Kg		73	47 - 120
Anthracene	1330	1054		ug/Kg		79	64 - 120
Atrazine	2670	2311		ug/Kg		87	71 - 125

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595915/2-A
Matrix: Solid
Analysis Batch: 596028

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595915

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzaldehyde	2670	2016		ug/Kg		76	42 - 120
Benzo[a]anthracene	1330	991.3		ug/Kg		74	70 - 120
Benzo[a]pyrene	1330	897.1		ug/Kg		67	63 - 125
Benzo[b]fluoranthene	1330	1067		ug/Kg		80	64 - 121
Benzo[g,h,i]perylene	1330	1029		ug/Kg		77	62 - 120
Benzo[k]fluoranthene	1330	1036		ug/Kg		78	63 - 128
1,1'-Biphenyl	1330	944.5		ug/Kg		71	50 - 120
Bis(2-chloroethoxy)methane	1330	975.3		ug/Kg		73	50 - 120
Bis(2-chloroethyl)ether	1330	859.1		ug/Kg		64	42 - 120
bis (2-chloroisopropyl) ether	1330	995.1		ug/Kg		75	38 - 120
Bis(2-ethylhexyl) phthalate	1330	915.7		ug/Kg		69	63 - 133
4-Bromophenyl phenyl ether	1330	990.6		ug/Kg		74	65 - 120
Butyl benzyl phthalate	1330	949.9		ug/Kg		71	66 - 127
Caprolactam	2670	2013		ug/Kg		75	67 - 120
Carbazole	1330	1092		ug/Kg		82	61 - 129
4-Chloroaniline	1330	467.3		ug/Kg		35	29 - 120
4-Chloro-3-methylphenol	1330	996.0		ug/Kg		75	51 - 120
2-Chloronaphthalene	1330	938.9		ug/Kg		70	51 - 120
2-Chlorophenol	1330	909.0		ug/Kg		68	47 - 120
4-Chlorophenyl phenyl ether	1330	993.1		ug/Kg		74	59 - 120
Chrysene	1330	995.3		ug/Kg		75	67 - 120
Dibenz(a,h)anthracene	1330	1051		ug/Kg		79	62 - 120
Dibenzofuran	1330	960.6		ug/Kg		72	55 - 120
3,3'-Dichlorobenzidine	2670	1437		ug/Kg		54	27 - 199
2,4-Dichlorophenol	1330	951.5		ug/Kg		71	50 - 120
Diethyl phthalate	1330	1044		ug/Kg		78	61 - 120
2,4-Dimethylphenol	1330	768.4		ug/Kg		58	24 - 120
Dimethyl phthalate	1330	982.7		ug/Kg		74	64 - 120
Di-n-butyl phthalate	1330	1043		ug/Kg		78	70 - 129
4,6-Dinitro-2-methylphenol	2670	958.5		ug/Kg		36	10 - 120
2,4-Dinitrophenol	2670	546.2		ug/Kg		20	10 - 120
2,4-Dinitrotoluene	1330	1054		ug/Kg		79	64 - 120
2,6-Dinitrotoluene	1330	1039		ug/Kg		78	62 - 120
Di-n-octyl phthalate	1330	930.8		ug/Kg		70	64 - 129
Fluoranthene	1330	1082		ug/Kg		81	71 - 124
Fluorene	1330	1004		ug/Kg		75	58 - 120
Hexachlorobenzene	1330	946.3		ug/Kg		71	59 - 120
Hexachlorobutadiene	1330	981.3		ug/Kg		74	45 - 120
Hexachlorocyclopentadiene	1330	401.2		ug/Kg		30	10 - 120
Hexachloroethane	1330	884.2		ug/Kg		66	39 - 120
Indeno[1,2,3-cd]pyrene	1330	983.6		ug/Kg		74	65 - 122
Isophorone	1330	993.5		ug/Kg		75	50 - 120
2-Methylnaphthalene	1330	932.4		ug/Kg		70	38 - 120
2-Methylphenol	1330	917.3		ug/Kg		69	45 - 120
3 & 4 Methylphenol	1330	960.6		ug/Kg		72	49 - 120
Naphthalene	1330	895.2		ug/Kg		67	34 - 120
2-Nitroaniline	1330	1121		ug/Kg		84	57 - 120
3-Nitroaniline	1330	781.6		ug/Kg		59	41 - 120
4-Nitroaniline	1330	1032		ug/Kg		77	48 - 128

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-595915/2-A
Matrix: Solid
Analysis Batch: 596028

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595915

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrobenzene	1330	1025		ug/Kg		77	48 - 120
2-Nitrophenol	1330	985.4		ug/Kg		74	51 - 120
4-Nitrophenol	2670	2071		ug/Kg		78	43 - 120
N-Nitrosodi-n-propylamine	1330	1091		ug/Kg		82	48 - 120
N-Nitrosodiphenylamine	1330	987.7		ug/Kg		74	64 - 120
Pentachlorophenol	2670	1365		ug/Kg		51	10 - 120
Phenanthrene	1330	1006		ug/Kg		75	60 - 120
Phenol	1330	954.5		ug/Kg		72	48 - 120
Pyrene	1330	1019		ug/Kg		76	67 - 120
2,4,5-Trichlorophenol	1330	1012		ug/Kg		76	50 - 120
2,4,6-Trichlorophenol	1330	1031		ug/Kg		77	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*73*		*34 - 120*
2-Fluorophenol (Surr)	*70*		*20 - 120*
Nitrobenzene-d5 (Surr)	*75*		*25 - 120*
Phenol-d5 (Surr)	*75*		*26 - 120*
Terphenyl-d14 (Surr)	*75*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*80*		*10 - 120*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-595050/1-A
Matrix: Solid
Analysis Batch: 595164

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 595050

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Antimony	ND		2.00	0.359	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Arsenic	ND		1.50	0.316	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Barium	ND		20.0	0.362	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Calcium	ND		500	36.5	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Chromium	ND		1.00	0.343	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Copper	ND		2.50	0.236	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Iron	ND		20.0	6.94	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Lead	ND		1.00	0.282	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Magnesium	ND		500	15.3	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Manganese	ND		1.50	0.259	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Nickel	ND		4.00	0.496	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Potassium	ND		500	35.8	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Selenium	ND		2.00	0.469	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Silver	ND		1.00	0.0810	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Sodium	154.9	J	500	142	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Thallium	ND	^+	2.00	0.399	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Vanadium	ND		5.00	0.822	mg/Kg		11/17/23 15:00	11/19/23 14:56	1
Zinc	ND		5.00	1.37	mg/Kg		11/17/23 15:00	11/19/23 14:56	1

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 240-595050/2-A
Matrix: Solid
Analysis Batch: 595164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595050

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	991.2		mg/Kg		99	80 - 120
Antimony	100	102.8		mg/Kg		103	80 - 120
Arsenic	200	206.0		mg/Kg		103	80 - 120
Barium	200	197.5		mg/Kg		99	80 - 120
Beryllium	100	101.0		mg/Kg		101	80 - 120
Cadmium	100	102.3		mg/Kg		102	80 - 120
Calcium	5000	4894		mg/Kg		98	80 - 120
Chromium	100	97.28		mg/Kg		97	80 - 120
Cobalt	100	99.50		mg/Kg		99	80 - 120
Copper	100	94.30		mg/Kg		94	80 - 120
Iron	1000	992.9		mg/Kg		99	80 - 120
Lead	100	96.09		mg/Kg		96	80 - 120
Magnesium	5000	4969		mg/Kg		99	80 - 120
Manganese	100	100.4		mg/Kg		100	80 - 120
Nickel	100	100.1		mg/Kg		100	80 - 120
Potassium	5000	4816		mg/Kg		96	80 - 120
Selenium	200	203.0		mg/Kg		101	80 - 120
Silver	10.0	9.527		mg/Kg		95	80 - 120
Sodium	5000	4881		mg/Kg		98	80 - 120
Thallium	200	208.6	^+	mg/Kg		104	80 - 120
Vanadium	100	97.69		mg/Kg		98	80 - 120
Zinc	100	102.0		mg/Kg		102	80 - 120

Lab Sample ID: 240-195184-1 MS
Matrix: Solid
Analysis Batch: 595164

Client Sample ID: DU-24-1
Prep Type: Total/NA
Prep Batch: 595050

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	4950		816	7676	4	mg/Kg	☼	334	75 - 125
Antimony	0.782	J F1	81.6	38.69	F1	mg/Kg	☼	46	75 - 125
Arsenic	9.81		163	168.7		mg/Kg	☼	97	75 - 125
Barium	111		163	260.2		mg/Kg	☼	91	75 - 125
Beryllium	0.242	J	81.6	75.11		mg/Kg	☼	92	75 - 125
Cadmium	33.2		81.6	110.0		mg/Kg	☼	94	75 - 125
Chromium	43.6		81.6	123.2		mg/Kg	☼	97	75 - 125
Cobalt	5.97		81.6	91.05		mg/Kg	☼	104	75 - 125
Iron	16600	F2	816	18050	4	mg/Kg	☼	175	75 - 125
Lead	1090		81.6	552.3	4	mg/Kg	☼	-665	75 - 125
Magnesium	9090	F1	4080	12260		mg/Kg	☼	78	75 - 125
Manganese	563		81.6	581.6	4	mg/Kg	☼	23	75 - 125
Nickel	35.3		81.6	125.7		mg/Kg	☼	111	75 - 125
Potassium	588		4080	4536		mg/Kg	☼	97	75 - 125
Selenium	0.534	J	163	155.1		mg/Kg	☼	95	75 - 125
Silver	1.22		8.16	8.715		mg/Kg	☼	92	75 - 125
Sodium	148	J B	4080	3919		mg/Kg	☼	92	75 - 125
Thallium	ND	^+	163	165.3	^+	mg/Kg	☼	101	75 - 125
Vanadium	30.3		81.6	110.3		mg/Kg	☼	98	75 - 125

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: 240-195184-1 MS — **Client Sample ID: DU-24-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595350 — **Prep Batch: 595050**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	101000		4080	108600	4	mg/Kg	☼	190	75 - 125
Copper	48.7		81.6	124.2		mg/Kg	☼	93	75 - 125
Zinc	943		81.6	963.0	4	mg/Kg	☼	25	75 - 125

Lab Sample ID: 240-195184-1 MSD — **Client Sample ID: DU-24-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595164 — **Prep Batch: 595050**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	4950		836	7795	4	mg/Kg	☼	340	75 - 125	2	20
Antimony	0.782	J F1	83.6	41.05	F1	mg/Kg	☼	48	75 - 125	6	20
Arsenic	9.81		167	175.2		mg/Kg	☼	99	75 - 125	4	20
Barium	111		167	298.8		mg/Kg	☼	112	75 - 125	14	20
Beryllium	0.242	J	83.6	77.44		mg/Kg	☼	92	75 - 125	3	20
Cadmium	33.2		83.6	112.7		mg/Kg	☼	95	75 - 125	2	20
Chromium	43.6		83.6	130.2		mg/Kg	☼	104	75 - 125	6	20
Cobalt	5.97		83.6	95.24		mg/Kg	☼	107	75 - 125	4	20
Iron	16600	F2	836	23680	4 F2	mg/Kg	☼	844	75 - 125	27	20
Lead	1090		83.6	618.8	4	mg/Kg	☼	-570	75 - 125	11	20
Magnesium	9090	F1	4180	11520	F1	mg/Kg	☼	58	75 - 125	6	20
Manganese	563		83.6	659.1	4	mg/Kg	☼	115	75 - 125	12	20
Nickel	35.3		83.6	135.1		mg/Kg	☼	119	75 - 125	7	20
Potassium	588		4180	4716		mg/Kg	☼	99	75 - 125	4	20
Selenium	0.534	J	167	159.7		mg/Kg	☼	95	75 - 125	3	20
Silver	1.22		8.36	9.136		mg/Kg	☼	95	75 - 125	5	20
Sodium	148	J B	4180	4076		mg/Kg	☼	94	75 - 125	4	20
Thallium	ND	^+	167	168.4	^+	mg/Kg	☼	101	75 - 125	2	20
Vanadium	30.3		83.6	109.1		mg/Kg	☼	94	75 - 125	1	20

Lab Sample ID: 240-195184-1 MSD — **Client Sample ID: DU-24-1**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595350 — **Prep Batch: 595050**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	101000		4180	105100	4	mg/Kg	☼	102	75 - 125	3	20
Copper	48.7		83.6	135.7		mg/Kg	☼	104	75 - 125	9	20
Zinc	943		83.6	997.6	4	mg/Kg	☼	66	75 - 125	4	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-595053/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 595543 — **Prep Batch: 595053**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/17/23 15:00	11/21/23 18:33	1

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-595053/2-A
Matrix: Solid
Analysis Batch: 595543

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 595053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.833	0.8748		mg/Kg		105	80 - 120		

Lab Sample ID: 240-195184-1 MS
Matrix: Solid
Analysis Batch: 595543

Client Sample ID: DU-24-1
Prep Type: Total/NA
Prep Batch: 595053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury	0.133	F1	0.157	0.3434	F1	mg/Kg	☼	134	80 - 120		

Lab Sample ID: 240-195184-1 MSD
Matrix: Solid
Analysis Batch: 595543

Client Sample ID: DU-24-1
Prep Type: Total/NA
Prep Batch: 595053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.133	F1	0.157	0.2960		mg/Kg	☼	104	80 - 120	15	20

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

GC/MS Semi VOA

ISM Prep Batch: 594456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1 - RE	DU-24-1	Total/NA	Solid	Increment, prep	
240-195184-1	DU-24-1	Total/NA	Solid	Increment, prep	
240-195184-2	DU-24-2	Total/NA	Solid	Increment, prep	
240-195184-3	DU-24-3	Total/NA	Solid	Increment, prep	

Prep Batch: 595256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	3546	594456
240-195184-2	DU-24-2	Total/NA	Solid	3546	594456
240-195184-3	DU-24-3	Total/NA	Solid	3546	594456
MB 240-595256/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-595256/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 595385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-595256/1-A	Method Blank	Total/NA	Solid	8270E	595256
LCS 240-595256/2-A	Lab Control Sample	Total/NA	Solid	8270E	595256

Analysis Batch: 595569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	8270E	595256
240-195184-2	DU-24-2	Total/NA	Solid	8270E	595256
240-195184-3	DU-24-3	Total/NA	Solid	8270E	595256

Prep Batch: 595915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1 - RE	DU-24-1	Total/NA	Solid	3546	594456
MB 240-595915/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-595915/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 596028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1 - RE	DU-24-1	Total/NA	Solid	8270E	595915
MB 240-595915/1-A	Method Blank	Total/NA	Solid	8270E	595915
LCS 240-595915/2-A	Lab Control Sample	Total/NA	Solid	8270E	595915

Metals

ISM Prep Batch: 594456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	Increment, prep	
240-195184-2	DU-24-2	Total/NA	Solid	Increment, prep	
240-195184-3	DU-24-3	Total/NA	Solid	Increment, prep	
240-195184-1 MS	DU-24-1	Total/NA	Solid	Increment, prep	
240-195184-1 MSD	DU-24-1	Total/NA	Solid	Increment, prep	

Prep Batch: 595050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	3050B	594456
240-195184-2	DU-24-2	Total/NA	Solid	3050B	594456
240-195184-3	DU-24-3	Total/NA	Solid	3050B	594456

Metals (Continued)

Prep Batch: 595050 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-595050/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-595050/2-A	Lab Control Sample	Total/NA	Solid	3050B	
240-195184-1 MS	DU-24-1	Total/NA	Solid	3050B	594456
240-195184-1 MSD	DU-24-1	Total/NA	Solid	3050B	594456

Prep Batch: 595053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	7471B	594456
240-195184-2	DU-24-2	Total/NA	Solid	7471B	594456
240-195184-3	DU-24-3	Total/NA	Solid	7471B	594456
MB 240-595053/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-595053/2-A	Lab Control Sample	Total/NA	Solid	7471B	
240-195184-1 MS	DU-24-1	Total/NA	Solid	7471B	594456
240-195184-1 MSD	DU-24-1	Total/NA	Solid	7471B	594456

Analysis Batch: 595164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	6010D	595050
240-195184-2	DU-24-2	Total/NA	Solid	6010D	595050
240-195184-3	DU-24-3	Total/NA	Solid	6010D	595050
MB 240-595050/1-A	Method Blank	Total/NA	Solid	6010D	595050
LCS 240-595050/2-A	Lab Control Sample	Total/NA	Solid	6010D	595050
240-195184-1 MS	DU-24-1	Total/NA	Solid	6010D	595050
240-195184-1 MSD	DU-24-1	Total/NA	Solid	6010D	595050

Analysis Batch: 595350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	6010D	595050
240-195184-2	DU-24-2	Total/NA	Solid	6010D	595050
240-195184-3	DU-24-3	Total/NA	Solid	6010D	595050
240-195184-1 MS	DU-24-1	Total/NA	Solid	6010D	595050
240-195184-1 MSD	DU-24-1	Total/NA	Solid	6010D	595050

Analysis Batch: 595543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	7471B	595053
240-195184-2	DU-24-2	Total/NA	Solid	7471B	595053
240-195184-3	DU-24-3	Total/NA	Solid	7471B	595053
MB 240-595053/1-A	Method Blank	Total/NA	Solid	7471B	595053
LCS 240-595053/2-A	Lab Control Sample	Total/NA	Solid	7471B	595053
240-195184-1 MS	DU-24-1	Total/NA	Solid	7471B	595053
240-195184-1 MSD	DU-24-1	Total/NA	Solid	7471B	595053

General Chemistry

ISM Prep Batch: 594456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	Increment, prep	
240-195184-2	DU-24-2	Total/NA	Solid	Increment, prep	
240-195184-3	DU-24-3	Total/NA	Solid	Increment, prep	

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

General Chemistry

Analysis Batch: 594987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195184-1	DU-24-1	Total/NA	Solid	Moisture	594456
240-195184-2	DU-24-2	Total/NA	Solid	Moisture	594456
240-195184-3	DU-24-3	Total/NA	Solid	Moisture	594456

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-1
Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Analysis	Moisture		1	594987	MS	EET CLE	11/17/23 10:44

Client Sample ID: DU-24-1
Date Collected: 11/09/23 14:30
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-1
Matrix: Solid
Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3546			595256	BV1	EET CLE	11/20/23 10:34
Total/NA	Analysis	8270E		6.667	595569	JMG	EET CLE	11/22/23 20:45
Total/NA	ISM Prep	Increment, prep	RE		594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3546	RE		595915	BV1	EET CLE	11/28/23 09:06
Total/NA	Analysis	8270E	RE	20	596028	LKG	EET CLE	11/29/23 12:46
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		1	595164	KLC	EET CLE	11/19/23 15:04
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		5	595350	KLC	EET CLE	11/20/23 08:38
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	7471B			595053	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	7471B		1	595543	GK	EET CLE	11/21/23 18:42

Client Sample ID: DU-24-2
Date Collected: 11/09/23 14:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Analysis	Moisture		1	594987	MS	EET CLE	11/17/23 10:44

Client Sample ID: DU-24-2
Date Collected: 11/09/23 14:40
Date Received: 11/10/23 09:50

Lab Sample ID: 240-195184-2
Matrix: Solid
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3546			595256	BV1	EET CLE	11/20/23 10:34
Total/NA	Analysis	8270E		10	595569	JMG	EET CLE	11/22/23 21:09
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		1	595164	KLC	EET CLE	11/19/23 15:35
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		5	595350	KLC	EET CLE	11/20/23 09:09

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Client Sample ID: DU-24-2

Lab Sample ID: 240-195184-2
Date Collected: 11/09/23 14:40
Matrix: Solid
Date Received: 11/10/23 09:50
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	7471B			595053	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	7471B		1	595543	GK	EET CLE	11/21/23 18:48

Client Sample ID: DU-24-3

Lab Sample ID: 240-195184-3
Date Collected: 11/09/23 14:50
Matrix: Solid
Date Received: 11/10/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Analysis	Moisture		1	594987	MS	EET CLE	11/17/23 10:44

Client Sample ID: DU-24-3

Lab Sample ID: 240-195184-3
Date Collected: 11/09/23 14:50
Matrix: Solid
Date Received: 11/10/23 09:50
Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3546			595256	BV1	EET CLE	11/20/23 10:34
Total/NA	Analysis	8270E		4	595569	JMG	EET CLE	11/22/23 20:21
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		1	595164	KLC	EET CLE	11/19/23 15:39
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	3050B			595050	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	6010D		5	595350	KLC	EET CLE	11/20/23 09:14
Total/NA	ISM Prep	Increment, prep			594456	DRJ	EET CLE	11/13/23 15:00
Total/NA	Prep	7471B			595053	DEE	EET CLE	11/17/23 15:00
Total/NA	Analysis	7471B		1	595543	GK	EET CLE	11/21/23 18:51

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195184-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Macy LaMasney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.6
Client Contact: Ms. Emily Fisher	Phone: 916-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 6 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	N	N	N	X	
DU-24-1	11/9/23	1430	C	Solid			X						X		2 coolers
DU-24-2	|	1440	|	Solid			X						X		
DU-24-3	|	1450	|	Solid			X						X		
				Solid											NO trip blanks
				Solid											provided
				Solid											

ML 11/9/23

240-195184 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Macy La Masney	11/9/23 1600	Tetratech	[signature]	11-10-23 950	EC

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : _____

Client Tetra Tech Site Name _____ Cooler unpacked by _____

Cooler Received on 11-10-23 Opened on 11-10-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☑ See Multiple Cooler Form

IR GUN # 21 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
   - Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   - Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : _____

Eurofins - Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
EC Client Box Other	IR GUN #: 21	3.6	3.8	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:	2.4	2.6	Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None
EC Client Box Other	IR GUN #:			Wet Ice Blue Ice Dry Ice Water None

☐ See Temperature Excursion Form

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Pkg # 159470-434 MTW EXP 0624

...vironment Testing
TestAmerica

RT 764 FZ 6 10:30 A 7944 11.1

UK... (30) 366-9677
EMILY ... CY LA MASNEY
TETRA TECH E... INC.
415 OAK STREET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

TO LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203 ...IS)
(330) 312-0176
REF: S240-113665

RMA

FedEx Express

RETURNS MON-SA...
TRK# 0221 6549 1095 7944 PRIORITY OVERNIGHT

FedEx.
TRK# 0221 6549 1095 7944

FRI - 10 NOV AA
PRIORITY OVERNIGHT

44203
OH-US
CLE

NX CAKA

4982321 09Nov2023 MPZA 581G5/F082/C088

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/21/2023 11:07:03 AM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195280-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
11/21/2023 11:07:03 AM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-195280-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195280-1

Receipt
The samples were received on 11/11/2023 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.7º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-595136 was outside the method criteria for Bromoform, Carbon disulfide, Cyclohexane, Methylcyclohexane, 1,2,4-Trichlorobenzene, Trichloroethene and 1,1,2-Trichloro-1,2,2-trifluoroethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

Method 8260D: The laboratory control sample (LCS) for analytical batch 240-595136 recovered outside control limits for 1,2,4-Trichlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010D: The initial calibration verification low (ICVL) result for batch 240-594619 was above the upper control limit for antimony. Sample results were below the reporting limit, and have been reported. SW-1 (240-195280-3), SW-2 (240-195280-4), SW-3 (240-195280-5) and SW-4 (240-195280-6)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
6010D	Metals (ICP)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195280-1	FB-1	Water	11/09/23 18:00	11/11/23 09:30
240-195280-2	FB-2	Water	11/10/23 13:00	11/11/23 09:30
240-195280-3	SW-1	Water	11/09/23 10:05	11/11/23 09:30
240-195280-4	SW-2	Water	11/09/23 10:20	11/11/23 09:30
240-195280-5	SW-3	Water	11/10/23 13:20	11/11/23 09:30
240-195280-6	SW-4	Water	11/10/23 13:30	11/11/23 09:30

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-1 — Lab Sample ID: 240-195280-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.520	J	1.00	0.440	ug/L	1		8260D	Total/NA

Client Sample ID: FB-2 — Lab Sample ID: 240-195280-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.485	J	1.00	0.440	ug/L	1		8260D	Total/NA

Client Sample ID: SW-1 — Lab Sample ID: 240-195280-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	728		200	47.3	ug/L	1		6010D	Total Recoverable
Barium	130	J	200	3.01	ug/L	1		6010D	Total Recoverable
Calcium	44200		5000	307	ug/L	1		6010D	Total Recoverable
Chromium	1.13	J	10.0	0.758	ug/L	1		6010D	Total Recoverable
Iron	945		200	82.7	ug/L	1		6010D	Total Recoverable
Magnesium	7660		5000	259	ug/L	1		6010D	Total Recoverable
Manganese	264		15.0	2.56	ug/L	1		6010D	Total Recoverable
Potassium	4990	J	5000	557	ug/L	1		6010D	Total Recoverable
Sodium	4110	J	5000	2110	ug/L	1		6010D	Total Recoverable

Client Sample ID: SW-2 — Lab Sample ID: 240-195280-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	577		200	47.3	ug/L	1		6010D	Total Recoverable
Arsenic	5.07	J	15.0	4.05	ug/L	1		6010D	Total Recoverable
Barium	139	J	200	3.01	ug/L	1		6010D	Total Recoverable
Calcium	44500		5000	307	ug/L	1		6010D	Total Recoverable
Chromium	1.35	J	10.0	0.758	ug/L	1		6010D	Total Recoverable
Iron	799		200	82.7	ug/L	1		6010D	Total Recoverable
Magnesium	7590		5000	259	ug/L	1		6010D	Total Recoverable
Manganese	327		15.0	2.56	ug/L	1		6010D	Total Recoverable
Nickel	2.39	J	40.0	2.20	ug/L	1		6010D	Total Recoverable
Potassium	4990	J	5000	557	ug/L	1		6010D	Total Recoverable
Sodium	3990	J	5000	2110	ug/L	1		6010D	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-3 — Lab Sample ID: 240-195280-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1150		200	47.3	ug/L	1		6010D	Total Recoverable
Arsenic	5.50	J	15.0	4.05	ug/L	1		6010D	Total Recoverable
Barium	90.6	J	200	3.01	ug/L	1		6010D	Total Recoverable
Calcium	43800		5000	307	ug/L	1		6010D	Total Recoverable
Chromium	1.93	J	10.0	0.758	ug/L	1		6010D	Total Recoverable
Iron	1760		200	82.7	ug/L	1		6010D	Total Recoverable
Lead	4.89	J	10.0	2.77	ug/L	1		6010D	Total Recoverable
Magnesium	7090		5000	259	ug/L	1		6010D	Total Recoverable
Manganese	130		15.0	2.56	ug/L	1		6010D	Total Recoverable
Nickel	2.35	J	40.0	2.20	ug/L	1		6010D	Total Recoverable
Potassium	4260	J	5000	557	ug/L	1		6010D	Total Recoverable
Sodium	2990	J	5000	2110	ug/L	1		6010D	Total Recoverable

Client Sample ID: SW-4 — Lab Sample ID: 240-195280-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1190		200	47.3	ug/L	1		6010D	Total Recoverable
Barium	89.4	J	200	3.01	ug/L	1		6010D	Total Recoverable
Calcium	43000		5000	307	ug/L	1		6010D	Total Recoverable
Chromium	1.79	J	10.0	0.758	ug/L	1		6010D	Total Recoverable
Iron	1770		200	82.7	ug/L	1		6010D	Total Recoverable
Lead	6.01	J	10.0	2.77	ug/L	1		6010D	Total Recoverable
Magnesium	6990		5000	259	ug/L	1		6010D	Total Recoverable
Manganese	126		15.0	2.56	ug/L	1		6010D	Total Recoverable
Potassium	4150	J	5000	557	ug/L	1		6010D	Total Recoverable
Sodium	2830	J	5000	2110	ug/L	1		6010D	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-1

Date Collected: 11/09/23 18:00
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-1

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10.0	5.41	ug/L			11/19/23 04:21	1
Benzene	ND		1.00	0.420	ug/L			11/19/23 04:21	1
Bromoform	ND		1.00	0.760	ug/L			11/19/23 04:21	1
Bromomethane	ND		1.00	0.420	ug/L			11/19/23 04:21	1
2-Butanone (MEK)	ND		10.0	1.16	ug/L			11/19/23 04:21	1
Carbon disulfide	ND		1.00	0.590	ug/L			11/19/23 04:21	1
Carbon tetrachloride	ND		1.00	0.260	ug/L			11/19/23 04:21	1
Chlorobenzene	ND		1.00	0.380	ug/L			11/19/23 04:21	1
Chlorodibromomethane	ND		1.00	0.390	ug/L			11/19/23 04:21	1
Chloroethane	ND		1.00	0.830	ug/L			11/19/23 04:21	1
Chloroform	ND		1.00	0.470	ug/L			11/19/23 04:21	1
Chloromethane	ND		1.00	0.630	ug/L			11/19/23 04:21	1
cis-1,2-Dichloroethene	ND		1.00	0.460	ug/L			11/19/23 04:21	1
cis-1,3-Dichloropropene	ND		1.00	0.610	ug/L			11/19/23 04:21	1
Cyclohexane	ND		1.00	0.480	ug/L			11/19/23 04:21	1
1,2-Dibromo-3-Chloropropane	ND		2.00	0.910	ug/L			11/19/23 04:21	1
1,2-Dichlorobenzene	ND		1.00	0.480	ug/L			11/19/23 04:21	1
1,3-Dichlorobenzene	ND		1.00	0.450	ug/L			11/19/23 04:21	1
1,4-Dichlorobenzene	ND		1.00	0.410	ug/L			11/19/23 04:21	1
Dichlorobromomethane	ND		1.00	0.376	ug/L			11/19/23 04:21	1
Dichlorodifluoromethane	ND		1.00	0.350	ug/L			11/19/23 04:21	1
1,1-Dichloroethane	ND		1.00	0.470	ug/L			11/19/23 04:21	1
1,2-Dichloroethane	ND		1.00	0.455	ug/L			11/19/23 04:21	1
1,1-Dichloroethene	ND		1.00	0.490	ug/L			11/19/23 04:21	1
1,2-Dichloropropane	ND		1.00	0.470	ug/L			11/19/23 04:21	1
Ethylbenzene	ND		1.00	0.420	ug/L			11/19/23 04:21	1
Ethylene Dibromide	ND		1.00	0.410	ug/L			11/19/23 04:21	1
2-Hexanone	ND		10.0	1.11	ug/L			11/19/23 04:21	1
Isopropylbenzene	ND		1.00	0.490	ug/L			11/19/23 04:21	1
Methyl acetate	ND		10.0	1.72	ug/L			11/19/23 04:21	1
Methylcyclohexane	ND		1.00	0.330	ug/L			11/19/23 04:21	1
Methylene Chloride	ND		5.00	2.62	ug/L			11/19/23 04:21	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	0.990	ug/L			11/19/23 04:21	1
Methyl tert-butyl ether	ND		1.00	0.470	ug/L			11/19/23 04:21	1
Styrene	ND		1.00	0.450	ug/L			11/19/23 04:21	1
1,1,2,2-Tetrachloroethane	ND		1.00	0.600	ug/L			11/19/23 04:21	1
Tetrachloroethene	ND		1.00	0.440	ug/L			11/19/23 04:21	1
Toluene	**0.520**	**J**	1.00	0.440	ug/L			11/19/23 04:21	1
trans-1,2-Dichloroethene	ND		1.00	0.510	ug/L			11/19/23 04:21	1
trans-1,3-Dichloropropene	ND		1.00	0.670	ug/L			11/19/23 04:21	1
1,2,4-Trichlorobenzene	ND	*+	1.00	0.770	ug/L			11/19/23 04:21	1
1,1,1-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 04:21	1
1,1,2-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 04:21	1
Trichloroethene	ND		1.00	0.440	ug/L			11/19/23 04:21	1
Trichlorofluoromethane	ND		1.00	0.450	ug/L			11/19/23 04:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.00	0.410	ug/L			11/19/23 04:21	1
Vinyl chloride	ND		1.00	0.450	ug/L			11/19/23 04:21	1
Xylenes, Total	ND		2.00	0.420	ug/L			11/19/23 04:21	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-1

Date Collected: 11/09/23 18:00
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-1

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		56 - 136		11/19/23 04:21	1
Dibromofluoromethane (Surr)	93		73 - 120		11/19/23 04:21	1
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		11/19/23 04:21	1
Toluene-d8 (Surr)	103		78 - 122		11/19/23 04:21	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-2

Date Collected: 11/10/23 13:00
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-2

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10.0	5.41	ug/L			11/19/23 04:45	1
Benzene	ND		1.00	0.420	ug/L			11/19/23 04:45	1
Bromoform	ND		1.00	0.760	ug/L			11/19/23 04:45	1
Bromomethane	ND		1.00	0.420	ug/L			11/19/23 04:45	1
2-Butanone (MEK)	ND		10.0	1.16	ug/L			11/19/23 04:45	1
Carbon disulfide	ND		1.00	0.590	ug/L			11/19/23 04:45	1
Carbon tetrachloride	ND		1.00	0.260	ug/L			11/19/23 04:45	1
Chlorobenzene	ND		1.00	0.380	ug/L			11/19/23 04:45	1
Chlorodibromomethane	ND		1.00	0.390	ug/L			11/19/23 04:45	1
Chloroethane	ND		1.00	0.830	ug/L			11/19/23 04:45	1
Chloroform	ND		1.00	0.470	ug/L			11/19/23 04:45	1
Chloromethane	ND		1.00	0.630	ug/L			11/19/23 04:45	1
cis-1,2-Dichloroethene	ND		1.00	0.460	ug/L			11/19/23 04:45	1
cis-1,3-Dichloropropene	ND		1.00	0.610	ug/L			11/19/23 04:45	1
Cyclohexane	ND		1.00	0.480	ug/L			11/19/23 04:45	1
1,2-Dibromo-3-Chloropropane	ND		2.00	0.910	ug/L			11/19/23 04:45	1
1,2-Dichlorobenzene	ND		1.00	0.480	ug/L			11/19/23 04:45	1
1,3-Dichlorobenzene	ND		1.00	0.450	ug/L			11/19/23 04:45	1
1,4-Dichlorobenzene	ND		1.00	0.410	ug/L			11/19/23 04:45	1
Dichlorobromomethane	ND		1.00	0.376	ug/L			11/19/23 04:45	1
Dichlorodifluoromethane	ND		1.00	0.350	ug/L			11/19/23 04:45	1
1,1-Dichloroethane	ND		1.00	0.470	ug/L			11/19/23 04:45	1
1,2-Dichloroethane	ND		1.00	0.455	ug/L			11/19/23 04:45	1
1,1-Dichloroethene	ND		1.00	0.490	ug/L			11/19/23 04:45	1
1,2-Dichloropropane	ND		1.00	0.470	ug/L			11/19/23 04:45	1
Ethylbenzene	ND		1.00	0.420	ug/L			11/19/23 04:45	1
Ethylene Dibromide	ND		1.00	0.410	ug/L			11/19/23 04:45	1
2-Hexanone	ND		10.0	1.11	ug/L			11/19/23 04:45	1
Isopropylbenzene	ND		1.00	0.490	ug/L			11/19/23 04:45	1
Methyl acetate	ND		10.0	1.72	ug/L			11/19/23 04:45	1
Methylcyclohexane	ND		1.00	0.330	ug/L			11/19/23 04:45	1
Methylene Chloride	ND		5.00	2.62	ug/L			11/19/23 04:45	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	0.990	ug/L			11/19/23 04:45	1
Methyl tert-butyl ether	ND		1.00	0.470	ug/L			11/19/23 04:45	1
Styrene	ND		1.00	0.450	ug/L			11/19/23 04:45	1
1,1,2,2-Tetrachloroethane	ND		1.00	0.600	ug/L			11/19/23 04:45	1
Tetrachloroethene	ND		1.00	0.440	ug/L			11/19/23 04:45	1
Toluene	**0.485**	**J**	1.00	0.440	ug/L			11/19/23 04:45	1
trans-1,2-Dichloroethene	ND		1.00	0.510	ug/L			11/19/23 04:45	1
trans-1,3-Dichloropropene	ND		1.00	0.670	ug/L			11/19/23 04:45	1
1,2,4-Trichlorobenzene	ND	*+	1.00	0.770	ug/L			11/19/23 04:45	1
1,1,1-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 04:45	1
1,1,2-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 04:45	1
Trichloroethene	ND		1.00	0.440	ug/L			11/19/23 04:45	1
Trichlorofluoromethane	ND		1.00	0.450	ug/L			11/19/23 04:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.00	0.410	ug/L			11/19/23 04:45	1
Vinyl chloride	ND		1.00	0.450	ug/L			11/19/23 04:45	1
Xylenes, Total	ND		2.00	0.420	ug/L			11/19/23 04:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-2

Date Collected: 11/10/23 13:00
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		56 - 136		11/19/23 04:45	1
Dibromofluoromethane (Surr)	94		73 - 120		11/19/23 04:45	1
1,2-Dichloroethane-d4 (Surr)	101		62 - 137		11/19/23 04:45	1
Toluene-d8 (Surr)	104		78 - 122		11/19/23 04:45	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-1

Date Collected: 11/09/23 10:05
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-3

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**728**		200	47.3	ug/L		11/13/23 14:00	11/14/23 19:26	1
Antimony	ND	^1+	20.0	7.46	ug/L		11/13/23 14:00	11/14/23 19:26	1
Arsenic	ND		15.0	4.05	ug/L		11/13/23 14:00	11/14/23 19:26	1
Barium	**130**	**J**	200	3.01	ug/L		11/13/23 14:00	11/14/23 19:26	1
Beryllium	ND		5.00	0.601	ug/L		11/13/23 14:00	11/14/23 19:26	1
Cadmium	ND		5.00	0.450	ug/L		11/13/23 14:00	11/14/23 19:26	1
Calcium	**44200**		5000	307	ug/L		11/13/23 14:00	11/14/23 19:26	1
Chromium	**1.13**	**J**	10.0	0.758	ug/L		11/13/23 14:00	11/14/23 19:26	1
Cobalt	ND		10.0	0.752	ug/L		11/13/23 14:00	11/14/23 19:26	1
Copper	ND		25.0	3.55	ug/L		11/13/23 14:00	11/14/23 19:26	1
Iron	**945**		200	82.7	ug/L		11/13/23 14:00	11/14/23 19:26	1
Lead	ND		10.0	2.77	ug/L		11/13/23 14:00	11/14/23 19:26	1
Magnesium	**7660**		5000	259	ug/L		11/13/23 14:00	11/14/23 19:26	1
Manganese	**264**		15.0	2.56	ug/L		11/13/23 14:00	11/14/23 19:26	1
Nickel	ND		40.0	2.20	ug/L		11/13/23 14:00	11/14/23 19:26	1
Potassium	**4990**	**J**	5000	557	ug/L		11/13/23 14:00	11/14/23 19:26	1
Selenium	ND		20.0	5.96	ug/L		11/13/23 14:00	11/14/23 19:26	1
Silver	ND		10.0	0.623	ug/L		11/13/23 14:00	11/14/23 19:26	1
Sodium	**4110**	**J**	5000	2110	ug/L		11/13/23 14:00	11/14/23 19:26	1
Thallium	ND		20.0	2.68	ug/L		11/13/23 14:00	11/14/23 19:26	1
Vanadium	ND		50.0	5.56	ug/L		11/13/23 14:00	11/14/23 19:26	1
Zinc	ND		50.0	22.5	ug/L		11/13/23 14:00	11/14/23 19:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.130	ug/L		11/13/23 14:00	11/14/23 16:08	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-2

Date Collected: 11/09/23 10:20
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-4

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**577**		200	47.3	ug/L		11/13/23 14:00	11/14/23 19:30	1
Antimony	ND	^1+	20.0	7.46	ug/L		11/13/23 14:00	11/14/23 19:30	1
Arsenic	**5.07**	**J**	15.0	4.05	ug/L		11/13/23 14:00	11/14/23 19:30	1
Barium	**139**	**J**	200	3.01	ug/L		11/13/23 14:00	11/14/23 19:30	1
Beryllium	ND		5.00	0.601	ug/L		11/13/23 14:00	11/14/23 19:30	1
Cadmium	ND		5.00	0.450	ug/L		11/13/23 14:00	11/14/23 19:30	1
Calcium	**44500**		5000	307	ug/L		11/13/23 14:00	11/14/23 19:30	1
Chromium	**1.35**	**J**	10.0	0.758	ug/L		11/13/23 14:00	11/14/23 19:30	1
Cobalt	ND		10.0	0.752	ug/L		11/13/23 14:00	11/14/23 19:30	1
Copper	ND		25.0	3.55	ug/L		11/13/23 14:00	11/14/23 19:30	1
Iron	**799**		200	82.7	ug/L		11/13/23 14:00	11/14/23 19:30	1
Lead	ND		10.0	2.77	ug/L		11/13/23 14:00	11/14/23 19:30	1
Magnesium	**7590**		5000	259	ug/L		11/13/23 14:00	11/14/23 19:30	1
Manganese	**327**		15.0	2.56	ug/L		11/13/23 14:00	11/14/23 19:30	1
Nickel	**2.39**	**J**	40.0	2.20	ug/L		11/13/23 14:00	11/14/23 19:30	1
Potassium	**4990**	**J**	5000	557	ug/L		11/13/23 14:00	11/14/23 19:30	1
Selenium	ND		20.0	5.96	ug/L		11/13/23 14:00	11/14/23 19:30	1
Silver	ND		10.0	0.623	ug/L		11/13/23 14:00	11/14/23 19:30	1
Sodium	**3990**	**J**	5000	2110	ug/L		11/13/23 14:00	11/14/23 19:30	1
Thallium	ND		20.0	2.68	ug/L		11/13/23 14:00	11/14/23 19:30	1
Vanadium	ND		50.0	5.56	ug/L		11/13/23 14:00	11/14/23 19:30	1
Zinc	ND		50.0	22.5	ug/L		11/13/23 14:00	11/14/23 19:30	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.130	ug/L		11/13/23 14:00	11/14/23 16:14	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-3

Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-5

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1150**		200	47.3	ug/L		11/13/23 14:00	11/14/23 19:35	1
Antimony	ND	^1+	20.0	7.46	ug/L		11/13/23 14:00	11/14/23 19:35	1
Arsenic	**5.50**	**J**	15.0	4.05	ug/L		11/13/23 14:00	11/14/23 19:35	1
Barium	**90.6**	**J**	200	3.01	ug/L		11/13/23 14:00	11/14/23 19:35	1
Beryllium	ND		5.00	0.601	ug/L		11/13/23 14:00	11/14/23 19:35	1
Cadmium	ND		5.00	0.450	ug/L		11/13/23 14:00	11/14/23 19:35	1
Calcium	**43800**		5000	307	ug/L		11/13/23 14:00	11/14/23 19:35	1
Chromium	**1.93**	**J**	10.0	0.758	ug/L		11/13/23 14:00	11/14/23 19:35	1
Cobalt	ND		10.0	0.752	ug/L		11/13/23 14:00	11/14/23 19:35	1
Copper	ND		25.0	3.55	ug/L		11/13/23 14:00	11/14/23 19:35	1
Iron	**1760**		200	82.7	ug/L		11/13/23 14:00	11/14/23 19:35	1
Lead	**4.89**	**J**	10.0	2.77	ug/L		11/13/23 14:00	11/14/23 19:35	1
Magnesium	**7090**		5000	259	ug/L		11/13/23 14:00	11/14/23 19:35	1
Manganese	**130**		15.0	2.56	ug/L		11/13/23 14:00	11/14/23 19:35	1
Nickel	**2.35**	**J**	40.0	2.20	ug/L		11/13/23 14:00	11/14/23 19:35	1
Potassium	**4260**	**J**	5000	557	ug/L		11/13/23 14:00	11/14/23 19:35	1
Selenium	ND		20.0	5.96	ug/L		11/13/23 14:00	11/14/23 19:35	1
Silver	ND		10.0	0.623	ug/L		11/13/23 14:00	11/14/23 19:35	1
Sodium	**2990**	**J**	5000	2110	ug/L		11/13/23 14:00	11/14/23 19:35	1
Thallium	ND		20.0	2.68	ug/L		11/13/23 14:00	11/14/23 19:35	1
Vanadium	ND		50.0	5.56	ug/L		11/13/23 14:00	11/14/23 19:35	1
Zinc	ND		50.0	22.5	ug/L		11/13/23 14:00	11/14/23 19:35	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.130	ug/L		11/13/23 14:00	11/14/23 16:16	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-4

Lab Sample ID: 240-195280-6

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:30

Matrix: Water

Method: SW846 6010D - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1190**		200	47.3	ug/L		11/13/23 14:00	11/14/23 19:48	1
Antimony	ND	^1+	20.0	7.46	ug/L		11/13/23 14:00	11/14/23 19:48	1
Arsenic	ND		15.0	4.05	ug/L		11/13/23 14:00	11/14/23 19:48	1
Barium	**89.4**	**J**	200	3.01	ug/L		11/13/23 14:00	11/14/23 19:48	1
Beryllium	ND		5.00	0.601	ug/L		11/13/23 14:00	11/14/23 19:48	1
Cadmium	ND		5.00	0.450	ug/L		11/13/23 14:00	11/14/23 19:48	1
Calcium	**43000**		5000	307	ug/L		11/13/23 14:00	11/14/23 19:48	1
Chromium	**1.79**	**J**	10.0	0.758	ug/L		11/13/23 14:00	11/14/23 19:48	1
Cobalt	ND		10.0	0.752	ug/L		11/13/23 14:00	11/14/23 19:48	1
Copper	ND		25.0	3.55	ug/L		11/13/23 14:00	11/14/23 19:48	1
Iron	**1770**		200	82.7	ug/L		11/13/23 14:00	11/14/23 19:48	1
Lead	**6.01**	**J**	10.0	2.77	ug/L		11/13/23 14:00	11/14/23 19:48	1
Magnesium	**6990**		5000	259	ug/L		11/13/23 14:00	11/14/23 19:48	1
Manganese	**126**		15.0	2.56	ug/L		11/13/23 14:00	11/14/23 19:48	1
Nickel	ND		40.0	2.20	ug/L		11/13/23 14:00	11/14/23 19:48	1
Potassium	**4150**	**J**	5000	557	ug/L		11/13/23 14:00	11/14/23 19:48	1
Selenium	ND		20.0	5.96	ug/L		11/13/23 14:00	11/14/23 19:48	1
Silver	ND		10.0	0.623	ug/L		11/13/23 14:00	11/14/23 19:48	1
Sodium	**2830**	**J**	5000	2110	ug/L		11/13/23 14:00	11/14/23 19:48	1
Thallium	ND		20.0	2.68	ug/L		11/13/23 14:00	11/14/23 19:48	1
Vanadium	ND		50.0	5.56	ug/L		11/13/23 14:00	11/14/23 19:48	1
Zinc	ND		50.0	22.5	ug/L		11/13/23 14:00	11/14/23 19:48	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.130	ug/L		11/13/23 14:00	11/14/23 16:18	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	**Client Sample ID**	**(56-136)**	**(73-120)**	**(62-137)**	**(78-122)**
240-195280-1	FB-1	84	93	101	103
240-195280-2	FB-2	83	94	101	104
LCS 240-595136/5	Lab Control Sample	89	96	100	105
MB 240-595136/9	Method Blank	85	93	102	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-595136/9
Matrix: Water
Analysis Batch: 595136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10.0	5.41	ug/L			11/19/23 03:57	1
Benzene	ND		1.00	0.420	ug/L			11/19/23 03:57	1
Bromoform	ND		1.00	0.760	ug/L			11/19/23 03:57	1
Bromomethane	ND		1.00	0.420	ug/L			11/19/23 03:57	1
2-Butanone (MEK)	ND		10.0	1.16	ug/L			11/19/23 03:57	1
Carbon disulfide	ND		1.00	0.590	ug/L			11/19/23 03:57	1
Carbon tetrachloride	ND		1.00	0.260	ug/L			11/19/23 03:57	1
Chlorobenzene	ND		1.00	0.380	ug/L			11/19/23 03:57	1
Chlorodibromomethane	ND		1.00	0.390	ug/L			11/19/23 03:57	1
Chloroethane	ND		1.00	0.830	ug/L			11/19/23 03:57	1
Chloroform	ND		1.00	0.470	ug/L			11/19/23 03:57	1
Chloromethane	ND		1.00	0.630	ug/L			11/19/23 03:57	1
cis-1,2-Dichloroethene	ND		1.00	0.460	ug/L			11/19/23 03:57	1
cis-1,3-Dichloropropene	ND		1.00	0.610	ug/L			11/19/23 03:57	1
Cyclohexane	ND		1.00	0.480	ug/L			11/19/23 03:57	1
1,2-Dibromo-3-Chloropropane	ND		2.00	0.910	ug/L			11/19/23 03:57	1
1,2-Dichlorobenzene	ND		1.00	0.480	ug/L			11/19/23 03:57	1
1,3-Dichlorobenzene	ND		1.00	0.450	ug/L			11/19/23 03:57	1
1,4-Dichlorobenzene	ND		1.00	0.410	ug/L			11/19/23 03:57	1
Dichlorobromomethane	ND		1.00	0.376	ug/L			11/19/23 03:57	1
Dichlorodifluoromethane	ND		1.00	0.350	ug/L			11/19/23 03:57	1
1,1-Dichloroethane	ND		1.00	0.470	ug/L			11/19/23 03:57	1
1,2-Dichloroethane	ND		1.00	0.455	ug/L			11/19/23 03:57	1
1,1-Dichloroethene	ND		1.00	0.490	ug/L			11/19/23 03:57	1
1,2-Dichloropropane	ND		1.00	0.470	ug/L			11/19/23 03:57	1
Ethylbenzene	ND		1.00	0.420	ug/L			11/19/23 03:57	1
Ethylene Dibromide	ND		1.00	0.410	ug/L			11/19/23 03:57	1
2-Hexanone	ND		10.0	1.11	ug/L			11/19/23 03:57	1
Isopropylbenzene	ND		1.00	0.490	ug/L			11/19/23 03:57	1
Methyl acetate	ND		10.0	1.72	ug/L			11/19/23 03:57	1
Methylcyclohexane	ND		1.00	0.330	ug/L			11/19/23 03:57	1
Methylene Chloride	ND		5.00	2.62	ug/L			11/19/23 03:57	1
4-Methyl-2-pentanone (MIBK)	ND		10.0	0.990	ug/L			11/19/23 03:57	1
Methyl tert-butyl ether	ND		1.00	0.470	ug/L			11/19/23 03:57	1
Styrene	ND		1.00	0.450	ug/L			11/19/23 03:57	1
1,1,2,2-Tetrachloroethane	ND		1.00	0.600	ug/L			11/19/23 03:57	1
Tetrachloroethene	ND		1.00	0.440	ug/L			11/19/23 03:57	1
Toluene	ND		1.00	0.440	ug/L			11/19/23 03:57	1
trans-1,2-Dichloroethene	ND		1.00	0.510	ug/L			11/19/23 03:57	1
trans-1,3-Dichloropropene	ND		1.00	0.670	ug/L			11/19/23 03:57	1
1,2,4-Trichlorobenzene	ND		1.00	0.770	ug/L			11/19/23 03:57	1
1,1,1-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 03:57	1
1,1,2-Trichloroethane	ND		1.00	0.480	ug/L			11/19/23 03:57	1
Trichloroethene	ND		1.00	0.440	ug/L			11/19/23 03:57	1
Trichlorofluoromethane	ND		1.00	0.450	ug/L			11/19/23 03:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.00	0.410	ug/L			11/19/23 03:57	1
Vinyl chloride	ND		1.00	0.450	ug/L			11/19/23 03:57	1
Xylenes, Total	ND		2.00	0.420	ug/L			11/19/23 03:57	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-595136/9
Matrix: Water
Analysis Batch: 595136

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		56 - 136		11/19/23 03:57	1
Dibromofluoromethane (Surr)	93		73 - 120		11/19/23 03:57	1
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		11/19/23 03:57	1
Toluene-d8 (Surr)	103		78 - 122		11/19/23 03:57	1

Lab Sample ID: LCS 240-595136/5
Matrix: Water
Analysis Batch: 595136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	40.0	29.71		ug/L		74	50 - 149
Benzene	20.0	17.91		ug/L		90	77 - 123
Bromoform	20.0	15.75		ug/L		79	57 - 129
Bromomethane	20.0	19.40		ug/L		97	36 - 142
2-Butanone (MEK)	40.0	35.31		ug/L		88	54 - 156
Carbon disulfide	20.0	15.32		ug/L		77	43 - 140
Carbon tetrachloride	20.0	16.67		ug/L		83	55 - 137
Chlorobenzene	20.0	18.40		ug/L		92	80 - 121
Chlorodibromomethane	20.0	18.07		ug/L		90	70 - 124
Chloroethane	20.0	16.91		ug/L		85	38 - 152
Chloroform	20.0	18.44		ug/L		92	74 - 122
Chloromethane	20.0	20.63		ug/L		103	47 - 143
cis-1,2-Dichloroethene	20.0	18.06		ug/L		90	77 - 123
cis-1,3-Dichloropropene	20.0	15.69		ug/L		78	64 - 130
Cyclohexane	20.0	16.64		ug/L		83	58 - 146
1,2-Dibromo-3-Chloropropane	20.0	16.94		ug/L		85	53 - 135
1,2-Dichlorobenzene	20.0	18.07		ug/L		90	78 - 120
1,3-Dichlorobenzene	20.0	18.94		ug/L		95	80 - 120
1,4-Dichlorobenzene	20.0	18.44		ug/L		92	80 - 120
Dichlorobromomethane	20.0	17.26		ug/L		86	69 - 126
Dichlorodifluoromethane	20.0	15.79		ug/L		79	34 - 153
1,1-Dichloroethane	20.0	17.69		ug/L		88	72 - 127
1,2-Dichloroethane	20.0	18.26		ug/L		91	66 - 128
1,1-Dichloroethene	20.0	17.73		ug/L		89	63 - 134
1,2-Dichloropropane	20.0	17.92		ug/L		90	75 - 133
Ethylbenzene	20.0	18.01		ug/L		90	80 - 121
Ethylene Dibromide	20.0	19.09		ug/L		95	71 - 134
2-Hexanone	40.0	37.37		ug/L		93	43 - 167
Isopropylbenzene	20.0	17.48		ug/L		87	74 - 128
Methyl acetate	40.0	33.16		ug/L		83	42 - 169
Methylcyclohexane	20.0	16.81		ug/L		84	62 - 136
Methylene Chloride	20.0	17.07		ug/L		85	71 - 125
4-Methyl-2-pentanone (MIBK)	40.0	36.11		ug/L		90	46 - 158
Methyl tert-butyl ether	20.0	18.32		ug/L		92	65 - 126
m-Xylene & p-Xylene	20.0	17.50		ug/L		88	80 - 120
o-Xylene	20.0	17.71		ug/L		89	80 - 123
Styrene	20.0	17.90		ug/L		90	80 - 135
1,1,2,2-Tetrachloroethane	20.0	17.69		ug/L		88	58 - 157

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-595136/5
Matrix: Water
Analysis Batch: 595136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	20.0	18.59		ug/L		93	76 - 123
Toluene	20.0	18.74		ug/L		94	80 - 123
trans-1,2-Dichloroethene	20.0	17.42		ug/L		87	75 - 124
trans-1,3-Dichloropropene	20.0	17.96		ug/L		90	57 - 129
1,2,4-Trichlorobenzene	20.0	33.43	*+	ug/L		167	44 - 147
1,1,1-Trichloroethane	20.0	17.54		ug/L		88	64 - 131
1,1,2-Trichloroethane	20.0	19.55		ug/L		98	70 - 138
Trichloroethene	20.0	17.49		ug/L		87	70 - 122
Trichlorofluoromethane	20.0	17.58		ug/L		88	30 - 170
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	16.61		ug/L		83	51 - 146
Vinyl chloride	20.0	19.68		ug/L		98	60 - 144
Xylenes, Total	40.0	35.21		ug/L		88	80 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*56 - 136*
Dibromofluoromethane (Surr)	*96*		*73 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*62 - 137*
Toluene-d8 (Surr)	*105*		*78 - 122*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-594384/1-A
Matrix: Water
Analysis Batch: 594619

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594384

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	47.3	ug/L		11/13/23 14:00	11/14/23 17:46	1
Antimony	ND	^1+	20.0	7.46	ug/L		11/13/23 14:00	11/14/23 17:46	1
Arsenic	ND		15.0	4.05	ug/L		11/13/23 14:00	11/14/23 17:46	1
Barium	ND		200	3.01	ug/L		11/13/23 14:00	11/14/23 17:46	1
Beryllium	ND		5.00	0.601	ug/L		11/13/23 14:00	11/14/23 17:46	1
Cadmium	ND		5.00	0.450	ug/L		11/13/23 14:00	11/14/23 17:46	1
Calcium	ND		5000	307	ug/L		11/13/23 14:00	11/14/23 17:46	1
Chromium	ND		10.0	0.758	ug/L		11/13/23 14:00	11/14/23 17:46	1
Cobalt	ND		10.0	0.752	ug/L		11/13/23 14:00	11/14/23 17:46	1
Copper	ND		25.0	3.55	ug/L		11/13/23 14:00	11/14/23 17:46	1
Iron	ND		200	82.7	ug/L		11/13/23 14:00	11/14/23 17:46	1
Lead	ND		10.0	2.77	ug/L		11/13/23 14:00	11/14/23 17:46	1
Magnesium	ND		5000	259	ug/L		11/13/23 14:00	11/14/23 17:46	1
Manganese	ND		15.0	2.56	ug/L		11/13/23 14:00	11/14/23 17:46	1
Nickel	ND		40.0	2.20	ug/L		11/13/23 14:00	11/14/23 17:46	1
Potassium	ND		5000	557	ug/L		11/13/23 14:00	11/14/23 17:46	1
Selenium	ND		20.0	5.96	ug/L		11/13/23 14:00	11/14/23 17:46	1
Silver	ND		10.0	0.623	ug/L		11/13/23 14:00	11/14/23 17:46	1
Sodium	ND		5000	2110	ug/L		11/13/23 14:00	11/14/23 17:46	1
Thallium	ND		20.0	2.68	ug/L		11/13/23 14:00	11/14/23 17:46	1
Vanadium	ND		50.0	5.56	ug/L		11/13/23 14:00	11/14/23 17:46	1
Zinc	ND		50.0	22.5	ug/L		11/13/23 14:00	11/14/23 17:46	1

QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 240-594384/2-A
Matrix: Water
Analysis Batch: 594619

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594384

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	10000	9727		ug/L		97	80 - 120
Antimony	1000	1063	^1+	ug/L		106	80 - 120
Arsenic	2000	2042		ug/L		102	80 - 120
Barium	2000	1902		ug/L		95	80 - 120
Beryllium	1000	985.0		ug/L		98	80 - 120
Cadmium	1000	1001		ug/L		100	80 - 120
Calcium	50000	48330		ug/L		97	80 - 120
Chromium	1000	980.3		ug/L		98	80 - 120
Cobalt	1000	1004		ug/L		100	80 - 120
Copper	1000	962.8		ug/L		96	80 - 120
Iron	10000	9700		ug/L		97	80 - 120
Lead	1000	957.8		ug/L		96	80 - 120
Magnesium	50000	48510		ug/L		97	80 - 120
Manganese	1000	980.5		ug/L		98	80 - 120
Nickel	1000	1010		ug/L		101	80 - 120
Potassium	50000	49050		ug/L		98	80 - 120
Selenium	2000	2076		ug/L		104	80 - 120
Silver	100	100.4		ug/L		100	80 - 120
Sodium	50000	48470		ug/L		97	80 - 120
Thallium	2000	1877		ug/L		94	80 - 120
Vanadium	1000	987.3		ug/L		99	80 - 120
Zinc	1000	1024		ug/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-594388/1-A
Matrix: Water
Analysis Batch: 594581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594388

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.130	ug/L		11/13/23 14:00	11/14/23 15:28	1

Lab Sample ID: LCS 240-594388/2-A
Matrix: Water
Analysis Batch: 594581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594388

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.898		ug/L		98	80 - 120

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

GC/MS VOA

Analysis Batch: 595136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195280-1	FB-1	Total/NA	Water	8260D	
240-195280-2	FB-2	Total/NA	Water	8260D	
MB 240-595136/9	Method Blank	Total/NA	Water	8260D	
LCS 240-595136/5	Lab Control Sample	Total/NA	Water	8260D	

Metals

Prep Batch: 594384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195280-3	SW-1	Total Recoverable	Water	3005A	
240-195280-4	SW-2	Total Recoverable	Water	3005A	
240-195280-5	SW-3	Total Recoverable	Water	3005A	
240-195280-6	SW-4	Total Recoverable	Water	3005A	
MB 240-594384/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-594384/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195280-3	SW-1	Total/NA	Water	7470A	
240-195280-4	SW-2	Total/NA	Water	7470A	
240-195280-5	SW-3	Total/NA	Water	7470A	
240-195280-6	SW-4	Total/NA	Water	7470A	
MB 240-594388/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-594388/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 594581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195280-3	SW-1	Total/NA	Water	7470A	594388
240-195280-4	SW-2	Total/NA	Water	7470A	594388
240-195280-5	SW-3	Total/NA	Water	7470A	594388
240-195280-6	SW-4	Total/NA	Water	7470A	594388
MB 240-594388/1-A	Method Blank	Total/NA	Water	7470A	594388
LCS 240-594388/2-A	Lab Control Sample	Total/NA	Water	7470A	594388

Analysis Batch: 594619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195280-3	SW-1	Total Recoverable	Water	6010D	594384
240-195280-4	SW-2	Total Recoverable	Water	6010D	594384
240-195280-5	SW-3	Total Recoverable	Water	6010D	594384
240-195280-6	SW-4	Total Recoverable	Water	6010D	594384
MB 240-594384/1-A	Method Blank	Total Recoverable	Water	6010D	594384
LCS 240-594384/2-A	Lab Control Sample	Total Recoverable	Water	6010D	594384

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: FB-1 — Lab Sample ID: 240-195280-1

Date Collected: 11/09/23 18:00 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595136	HMB	EET CLE	11/19/23 04:21

Client Sample ID: FB-2 — Lab Sample ID: 240-195280-2

Date Collected: 11/10/23 13:00 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	595136	HMB	EET CLE	11/19/23 04:45

Client Sample ID: SW-1 — Lab Sample ID: 240-195280-3

Date Collected: 11/09/23 10:05 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			594384	TQ6W	EET CLE	11/13/23 14:00
Total Recoverable	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 19:26
Total/NA	Prep	7470A			594388	TQ6W	EET CLE	11/13/23 14:00
Total/NA	Analysis	7470A		1	594581	DSH	EET CLE	11/14/23 16:08

Client Sample ID: SW-2 — Lab Sample ID: 240-195280-4

Date Collected: 11/09/23 10:20 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			594384	TQ6W	EET CLE	11/13/23 14:00
Total Recoverable	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 19:30
Total/NA	Prep	7470A			594388	TQ6W	EET CLE	11/13/23 14:00
Total/NA	Analysis	7470A		1	594581	DSH	EET CLE	11/14/23 16:14

Client Sample ID: SW-3 — Lab Sample ID: 240-195280-5

Date Collected: 11/10/23 13:20 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			594384	TQ6W	EET CLE	11/13/23 14:00
Total Recoverable	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 19:35
Total/NA	Prep	7470A			594388	TQ6W	EET CLE	11/13/23 14:00
Total/NA	Analysis	7470A		1	594581	DSH	EET CLE	11/14/23 16:16

Client Sample ID: SW-4 — Lab Sample ID: 240-195280-6

Date Collected: 11/10/23 13:30 — **Matrix: Water**
Date Received: 11/11/23 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			594384	TQ6W	EET CLE	11/13/23 14:00
Total Recoverable	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 19:48

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Client Sample ID: SW-4

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:30

Lab Sample ID: 240-195280-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	7470A			594388	TQ6W	EET CLE	11/13/23 14:00
Total/NA	Analysis	7470A		1	594581	DSH	EET CLE	11/14/23 16:18

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195280-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	1,2,4-Trichlorobenzene
8260D		Water	Cyclohexane
8260D		Water	Methyl acetate
8260D		Water	Methylcyclohexane

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

4.6/5.7

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Client Information	Sampler: Macy La Mesney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113666-40372.1
Client Contact: Ms. Emily Fisher	Phone: 816-412-1759	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 1 of 5
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D - TCL VOCs	8270E - TCL SVOCs	6020B, 7470A	OA2 - OA2 Standard List	6010D, 7470A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	D	N	D		
FB-1	11/9/23	1800	G	Water			X						
FB-2	11/10/23	1300	G	Water			X						
SW-1	11/9/23	1005	|	Water							X		
SW-2	|	1020	|	Water							X		
SW-3	11/10/23	1320	|	Water							X		
SW-4	11/10/23	1330	|	Water							X		
				Water									
				Water									
	ML	11/10/23		Water									
				Water									
				Water									

240-195280 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Macy La Mesney	Date/Time: 11/10/23 1830	Company: Tetratech	Received by: [signature]	Date/Time: 11-11-23 930	Company: ETNC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative Login # : 195280
Barberton Facility

Client Tetra Tech Site Name _____ Cooler unpacked by: Tommy Page

Cooler Received on 11-11-23 Opened on 11-11-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # ES Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN # 21 (CF +2.0 °C) Observed Cooler Temp. 4.6 °C Corrected Cooler Temp. 5.7 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   - -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   - -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   - -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No TR-11-11-23
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by:

500 ml Nitric bottle has Diss but hand written not Filtered All 4

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
SW-1	240-195280-A-3	Plastic 500ml - with Nitric Acid	<2			
SW-1	240-195280-B-3	Plastic 500ml - with Nitric Acid	<2			
SW-2	240-195280-A-4	Plastic 500ml - with Nitric Acid	<2			
SW-2	240-195280-B-4	Plastic 500ml - with Nitric Acid	<2			
SW-3	240-195280-A-5	Plastic 500ml - with Nitric Acid	<2			
SW-3	240-195280-B-5	Plastic 500ml - with Nitric Acid	<2			
SW-4	240-195280-A-6	Plastic 500ml - with Nitric Acid	<2			
SW-4	240-195280-B-6	Plastic 500ml - with Nitric Acid	<2			

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Emily Fisher
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Generated 11/28/2023 1:42:40 PM

JOB DESCRIPTION

Elkem Carbide site

JOB NUMBER

240-195282-1

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton OH 44203

See page two for job notes and contact information.

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

Roxanne Cisneros

Generated
11/28/2023 1:42:40 PM

Authorized for release by
Roxanne Cisneros, Senior Project Manager
roxanne.cisneros@et.eurofinsus.com
(615)301-5761

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Z	The chromatographic response does not resemble a typical fuel pattern.

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 240-195282-1

Laboratory: Eurofins Cleveland

Narrative

Job Narrative
240-195282-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/11/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.7°C

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 240-595108 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: An MS/MSD was prepped and analyzed with analytical batch 240-595108, but was not reported due to the parent sample being reported in another batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: SD-1 (240-195282-3). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 240-594789 recovered above the upper control limit for Atrazine, Hexachlorocyclopentadiene and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: SD-3 (240-195282-1), SD-4 (240-195282-2), SD-1 (240-195282-3) and SD-2 (240-195282-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6010D: The initial calibration verification low (ICVL) result for batch 240-594619 was above the upper control limit for antimony. Sample results were below the reporting limit, and have been reported. SD-3 (240-195282-1), SD-4 (240-195282-2), SD-1 (240-195282-3) and SD-2 (240-195282-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Method Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CLE
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	EET CF
6010D	Metals (ICP)	SW846	EET CLE
7471B	Mercury (CVAA)	SW846	EET CLE
Moisture	Percent Moisture	EPA	EET CLE
3050B	Preparation, Metals	SW846	EET CLE
3546	Microwave Extraction	SW846	EET CF
3546	Microwave Extraction	SW846	EET CLE
5035	Closed System Purge and Trap	SW846	EET CLE
7471B	Preparation, Mercury	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency
Iowa DNR = Iowa Department of Natural Resources
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195282-1	SD-3	Solid	11/10/23 13:20	11/11/23 09:50
240-195282-2	SD-4	Solid	11/10/23 13:30	11/11/23 09:50
240-195282-3	SD-1	Solid	11/10/23 15:45	11/11/23 09:50
240-195282-4	SD-2	Solid	11/10/23 16:00	11/11/23 09:50

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3 — Lab Sample ID: 240-195282-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	5.07	J	26.2	4.66	ug/Kg	1	☼	8260D	Total/NA
Benzo[a]anthracene	47.5	J	67.9	25.5	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	64.8	J	67.9	23.8	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	87.2		67.9	20.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	51.6	J	67.9	45.8	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	29.7	J	67.9	17.0	ug/Kg	1	☼	8270E	Total/NA
Chrysene	79.8		67.9	23.8	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	31.2	J	67.9	25.5	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	96.6	J B	255	40.7	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	73.4		67.9	23.8	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	56.7	J	67.9	20.4	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	67.8	J	67.9	22.1	ug/Kg	1	☼	8270E	Total/NA
Pyrene	77.4		67.9	27.2	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	17.6	J Z	24.0	6.40	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	3010		28.7	7.67	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.761	J ^1+	2.87	0.516	mg/Kg	1	☼	6010D	Total/NA
Arsenic	1.67	J	2.16	0.454	mg/Kg	1	☼	6010D	Total/NA
Barium	25.9	J	28.7	0.520	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.181	J	0.719	0.0776	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.0711	J	0.719	0.0690	mg/Kg	1	☼	6010D	Total/NA
Calcium	1180		719	52.4	mg/Kg	1	☼	6010D	Total/NA
Chromium	5.38		1.44	0.493	mg/Kg	1	☼	6010D	Total/NA
Cobalt	1.88		1.44	0.106	mg/Kg	1	☼	6010D	Total/NA
Copper	5.02		3.59	0.339	mg/Kg	1	☼	6010D	Total/NA
Iron	3240		28.7	9.98	mg/Kg	1	☼	6010D	Total/NA
Lead	9.70		1.44	0.405	mg/Kg	1	☼	6010D	Total/NA
Magnesium	482	J	719	22.0	mg/Kg	1	☼	6010D	Total/NA
Manganese	23.4		2.16	0.372	mg/Kg	1	☼	6010D	Total/NA
Nickel	3.97	J	5.75	0.713	mg/Kg	1	☼	6010D	Total/NA
Potassium	244	J	719	51.4	mg/Kg	1	☼	6010D	Total/NA
Vanadium	10.9		7.19	1.18	mg/Kg	1	☼	6010D	Total/NA
Zinc	15.0		7.19	1.96	mg/Kg	1	☼	6010D	Total/NA

Client Sample ID: SD-4 — Lab Sample ID: 240-195282-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	53.9	J	79.2	29.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[a]pyrene	67.3	J	79.2	27.7	ug/Kg	1	☼	8270E	Total/NA
Benzo[b]fluoranthene	97.7		79.2	23.8	ug/Kg	1	☼	8270E	Total/NA
Benzo[g,h,i]perylene	61.4	J	79.2	53.4	ug/Kg	1	☼	8270E	Total/NA
Benzo[k]fluoranthene	22.6	J	79.2	19.8	ug/Kg	1	☼	8270E	Total/NA
Chrysene	84.1		79.2	27.7	ug/Kg	1	☼	8270E	Total/NA
Dibenz(a,h)anthracene	30.2	J	79.2	29.7	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	108	J B	297	47.5	ug/Kg	1	☼	8270E	Total/NA
Fluoranthene	89.5		79.2	27.7	ug/Kg	1	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	56.9	J	79.2	23.8	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	62.4	J	79.2	25.7	ug/Kg	1	☼	8270E	Total/NA
Pyrene	92.3		79.2	31.7	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	127	Z	29.1	7.74	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	8780		34.9	9.31	mg/Kg	1	☼	6010D	Total/NA
Antimony	1.27	J ^1+	3.49	0.627	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-4 (Continued) — Lab Sample ID: 240-195282-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.91		2.62	0.552	mg/Kg	1	☼	6010D	Total/NA
Barium	90.1		34.9	0.632	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.617	J	0.873	0.0943	mg/Kg	1	☼	6010D	Total/NA
Cadmium	0.245	J	0.873	0.0838	mg/Kg	1	☼	6010D	Total/NA
Calcium	4240		873	63.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	15.7		1.75	0.599	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.79		1.75	0.129	mg/Kg	1	☼	6010D	Total/NA
Copper	14.0		4.36	0.412	mg/Kg	1	☼	6010D	Total/NA
Iron	13100		34.9	12.1	mg/Kg	1	☼	6010D	Total/NA
Lead	20.8		1.75	0.492	mg/Kg	1	☼	6010D	Total/NA
Magnesium	1500		873	26.7	mg/Kg	1	☼	6010D	Total/NA
Manganese	125		2.62	0.452	mg/Kg	1	☼	6010D	Total/NA
Nickel	14.0		6.98	0.866	mg/Kg	1	☼	6010D	Total/NA
Potassium	624	J	873	62.4	mg/Kg	1	☼	6010D	Total/NA
Vanadium	31.8		8.73	1.43	mg/Kg	1	☼	6010D	Total/NA
Zinc	56.5		8.73	2.39	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0386	J	0.196	0.0352	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SD-1 — Lab Sample ID: 240-195282-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	34.8	J	76.9	26.9	ug/Kg	1	☼	8270E	Total/NA
Di-n-butyl phthalate	101	J B	289	46.2	ug/Kg	1	☼	8270E	Total/NA
Phenanthrene	30.2	J	76.9	25.0	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	62.5	Z	28.1	7.46	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	17100		38.7	10.3	mg/Kg	1	☼	6010D	Total/NA
Arsenic	11.1		2.90	0.611	mg/Kg	1	☼	6010D	Total/NA
Barium	181		38.7	0.701	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.832	J	0.968	0.104	mg/Kg	1	☼	6010D	Total/NA
Calcium	3960		968	70.5	mg/Kg	1	☼	6010D	Total/NA
Chromium	21.2		1.94	0.664	mg/Kg	1	☼	6010D	Total/NA
Cobalt	12.0		1.94	0.143	mg/Kg	1	☼	6010D	Total/NA
Copper	17.5		4.84	0.457	mg/Kg	1	☼	6010D	Total/NA
Iron	23600		38.7	13.4	mg/Kg	1	☼	6010D	Total/NA
Lead	19.3		1.94	0.546	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2870		968	29.6	mg/Kg	1	☼	6010D	Total/NA
Manganese	614		2.90	0.501	mg/Kg	1	☼	6010D	Total/NA
Nickel	18.3		7.74	0.960	mg/Kg	1	☼	6010D	Total/NA
Potassium	1290		968	69.2	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.926	J	3.87	0.908	mg/Kg	1	☼	6010D	Total/NA
Vanadium	43.1		9.68	1.59	mg/Kg	1	☼	6010D	Total/NA
Zinc	65.2		9.68	2.65	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0510	J	0.199	0.0358	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: SD-2 — Lab Sample ID: 240-195282-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-butyl phthalate	93.3	J B	262	42.0	ug/Kg	1	☼	8270E	Total/NA
Total Extractable Hydrocarbons	123	Z	26.5	7.05	mg/Kg	1	☼	OA-2	Total/NA
Aluminum	16000		30.5	8.14	mg/Kg	1	☼	6010D	Total/NA
Antimony	0.585	J ^1+	3.05	0.548	mg/Kg	1	☼	6010D	Total/NA
Arsenic	10.3		2.29	0.482	mg/Kg	1	☼	6010D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-2 (Continued)

Lab Sample ID: 240-195282-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	188		30.5	0.553	mg/Kg	1	☼	6010D	Total/NA
Beryllium	0.870		0.763	0.0824	mg/Kg	1	☼	6010D	Total/NA
Calcium	3560		763	55.6	mg/Kg	1	☼	6010D	Total/NA
Chromium	19.8		1.53	0.524	mg/Kg	1	☼	6010D	Total/NA
Cobalt	12.9		1.53	0.113	mg/Kg	1	☼	6010D	Total/NA
Copper	16.6		3.82	0.360	mg/Kg	1	☼	6010D	Total/NA
Iron	21500		30.5	10.6	mg/Kg	1	☼	6010D	Total/NA
Lead	23.0		1.53	0.430	mg/Kg	1	☼	6010D	Total/NA
Magnesium	2670		763	23.3	mg/Kg	1	☼	6010D	Total/NA
Manganese	454		2.29	0.395	mg/Kg	1	☼	6010D	Total/NA
Nickel	19.4		6.11	0.757	mg/Kg	1	☼	6010D	Total/NA
Potassium	1270		763	54.6	mg/Kg	1	☼	6010D	Total/NA
Vanadium	42.7		7.63	1.25	mg/Kg	1	☼	6010D	Total/NA
Zinc	58.5		7.63	2.09	mg/Kg	1	☼	6010D	Total/NA
Mercury	0.0399	J	0.165	0.0297	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3

Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1

Matrix: Solid
Percent Solids: 59.0

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		32.8	27.5	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Benzene	ND		6.56	0.915	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Bromoform	ND		6.56	3.15	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Bromomethane	ND		6.56	5.44	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
2-Butanone (MEK)	**5.07**	**J**	26.2	4.66	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Carbon disulfide	ND		6.56	1.52	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Carbon tetrachloride	ND		6.56	4.26	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Chlorobenzene	ND		6.56	1.20	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Chlorodibromomethane	ND		6.56	3.65	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Chloroethane	ND		6.56	3.59	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Chloroform	ND		6.56	1.03	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Chloromethane	ND		6.56	2.99	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
cis-1,2-Dichloroethene	ND		6.56	1.94	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
cis-1,3-Dichloropropene	ND		6.56	3.78	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Cyclohexane	ND		13.1	1.80	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,2-Dibromo-3-Chloropropane	ND		13.1	4.73	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,2-Dichlorobenzene	ND		6.56	1.46	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,3-Dichlorobenzene	ND		6.56	2.16	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,4-Dichlorobenzene	ND		6.56	1.16	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Dichlorobromomethane	ND		6.56	1.97	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Dichlorodifluoromethane	ND		6.56	2.97	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1-Dichloroethane	ND		6.56	1.86	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,2-Dichloroethane	ND		6.56	2.36	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1-Dichloroethene	ND		6.56	2.39	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,2-Dichloropropane	ND		6.56	1.12	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Ethylbenzene	ND		6.56	1.37	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Ethylene Dibromide	ND		6.56	1.01	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
2-Hexanone	ND		26.2	5.35	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Isopropylbenzene	ND		6.56	2.52	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Methyl acetate	ND		32.8	4.46	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Methylcyclohexane	ND		13.1	1.61	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Methylene Chloride	ND		32.8	15.7	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
4-Methyl-2-pentanone (MIBK)	ND		26.2	4.87	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Methyl tert-butyl ether	ND		6.56	2.60	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Styrene	ND		6.56	1.52	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1,2,2-Tetrachloroethane	ND		6.56	1.88	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Tetrachloroethene	ND		6.56	5.09	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Toluene	ND		6.56	1.01	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
trans-1,2-Dichloroethene	ND		6.56	1.86	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
trans-1,3-Dichloropropene	ND		6.56	4.86	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,2,4-Trichlorobenzene	ND		6.56	3.28	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1,1-Trichloroethane	ND		6.56	2.32	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1,2-Trichloroethane	ND		6.56	1.48	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Trichloroethene	ND		6.56	1.88	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Trichlorofluoromethane	ND		6.56	3.53	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		6.56	1.68	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Vinyl chloride	ND		6.56	2.32	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1
Xylenes, Total	ND		13.1	2.08	ug/Kg	☼	11/11/23 10:50	11/18/23 06:07	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3

Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1

Matrix: Solid
Percent Solids: 59.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*41 - 143*	*11/11/23 10:50*	*11/18/23 06:07*	*1*
Dibromofluoromethane (Surr)	*88*		*41 - 138*	*11/11/23 10:50*	*11/18/23 06:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*58 - 125*	*11/11/23 10:50*	*11/18/23 06:07*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 10:50*	*11/18/23 06:07*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Acenaphthylene	ND		67.9	25.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Acetophenone	ND		170	42.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Anthracene	ND		67.9	20.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Atrazine	ND		560	117	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzaldehyde	ND		560	95.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzo[a]anthracene	**47.5**	**J**	67.9	25.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzo[a]pyrene	**64.8**	**J**	67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzo[b]fluoranthene	**87.2**		67.9	20.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzo[g,h,i]perylene	**51.6**	**J**	67.9	45.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Benzo[k]fluoranthene	**29.7**	**J**	67.9	17.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
1,1'-Biphenyl	ND		170	47.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Bis(2-chloroethoxy)methane	ND		170	33.9	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Bis(2-chloroethyl)ether	ND		170	37.3	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
bis (2-chloroisopropyl) ether	ND		170	44.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Bis(2-ethylhexyl) phthalate	ND		255	95.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Bromophenyl phenyl ether	ND		170	54.3	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Butyl benzyl phthalate	ND		255	86.6	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Caprolactam	ND		560	117	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Carbazole	ND		170	45.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Chloroaniline	ND		255	27.2	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Chloro-3-methylphenol	ND		255	64.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Chloronaphthalene	ND		170	47.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Chlorophenol	ND		170	44.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Chlorophenyl phenyl ether	ND		170	47.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Chrysene	**79.8**		67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Dibenz(a,h)anthracene	**31.2**	**J**	67.9	25.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Dibenzofuran	ND		170	49.2	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
3,3'-Dichlorobenzidine	ND		255	161	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4-Dichlorophenol	ND		255	45.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Diethyl phthalate	ND		255	73.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4-Dimethylphenol	ND		255	61.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Dimethyl phthalate	ND		255	67.9	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Di-n-butyl phthalate	**96.6**	**J B**	255	40.7	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4,6-Dinitro-2-methylphenol	ND		560	177	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4-Dinitrophenol	ND		560	290	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4-Dinitrotoluene	ND		339	39.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,6-Dinitrotoluene	ND		339	61.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Di-n-octyl phthalate	ND		255	84.9	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Fluoranthene	**73.4**		67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Fluorene	ND		67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Hexachlorobenzene	ND		67.9	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Hexachlorobutadiene	ND		170	35.6	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3

Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1

Matrix: Solid
Percent Solids: 59.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		560	66.2	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Hexachloroethane	ND		170	54.3	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Indeno[1,2,3-cd]pyrene	**56.7**	**J**	67.9	20.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Isophorone	ND		170	44.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Methylnaphthalene	ND		67.9	22.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Methylphenol	ND		339	69.6	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
3 & 4 Methylphenol	ND		679	69.6	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Naphthalene	ND		67.9	22.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Nitroaniline	ND		339	64.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
3-Nitroaniline	ND		339	59.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Nitroaniline	ND		339	44.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Nitrobenzene	ND		170	37.3	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2-Nitrophenol	ND		170	59.4	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
4-Nitrophenol	ND		560	153	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
N-Nitrosodi-n-propylamine	ND		170	62.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
N-Nitrosodiphenylamine	ND		170	45.8	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Pentachlorophenol	ND		458	178	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Phenanthrene	**67.8**	**J**	67.9	22.1	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Phenol	ND		170	64.5	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
Pyrene	**77.4**		67.9	27.2	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4,5-Trichlorophenol	ND		255	56.0	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1
2,4,6-Trichlorophenol	ND		255	49.2	ug/Kg	☼	11/15/23 08:00	11/16/23 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*56*		*34 - 120*	*11/15/23 08:00*	*11/16/23 14:54*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 120*	*11/15/23 08:00*	*11/16/23 14:54*	*1*
Nitrobenzene-d5 (Surr)	*53*		*25 - 120*	*11/15/23 08:00*	*11/16/23 14:54*	*1*
Phenol-d5 (Surr)	*59*		*26 - 120*	*11/15/23 08:00*	*11/16/23 14:54*	*1*
Terphenyl-d14 (Surr)	*56*		*46 - 137*	*11/15/23 08:00*	*11/16/23 14:54*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*10 - 120*	*11/15/23 08:00*	*11/16/23 14:54*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		16.0	12.0	mg/Kg	☼	11/22/23 08:57	11/27/23 22:12	1
Diesel	ND		16.0	6.40	mg/Kg	☼	11/22/23 08:57	11/27/23 22:12	1
Waste Oil	ND		16.0	3.27	mg/Kg	☼	11/22/23 08:57	11/27/23 22:12	1
Total Extractable Hydrocarbons	**17.6**	**J Z**	24.0	6.40	mg/Kg	☼	11/22/23 08:57	11/27/23 22:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*94*		*12 - 126*	*11/22/23 08:57*	*11/27/23 22:12*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3010**		28.7	7.67	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Antimony	**0.761**	**J ^1+**	2.87	0.516	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Arsenic	**1.67**	**J**	2.16	0.454	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Barium	**25.9**	**J**	28.7	0.520	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Beryllium	**0.181**	**J**	0.719	0.0776	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Cadmium	**0.0711**	**J**	0.719	0.0690	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Calcium	**1180**		719	52.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3

Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1

Matrix: Solid
Percent Solids: 59.0

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	5.38		1.44	0.493	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Cobalt	1.88		1.44	0.106	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Copper	5.02		3.59	0.339	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Iron	3240		28.7	9.98	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Lead	9.70		1.44	0.405	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Magnesium	482	J	719	22.0	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Manganese	23.4		2.16	0.372	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Nickel	3.97	J	5.75	0.713	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Potassium	244	J	719	51.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Selenium	ND		2.87	0.674	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Silver	ND		1.44	0.116	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Sodium	ND		719	204	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Thallium	ND		2.87	0.574	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Vanadium	10.9		7.19	1.18	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1
Zinc	15.0		7.19	1.96	mg/Kg	☼	11/13/23 15:00	11/14/23 21:53	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.192	0.0346	mg/Kg	☼	11/13/23 15:00	11/14/23 10:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	59.0		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	41.0		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-4

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2

Matrix: Solid
Percent Solids: 50.2

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		57.1	48.0	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Benzene	ND		11.4	1.59	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Bromoform	ND		11.4	5.48	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Bromomethane	ND		11.4	9.48	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
2-Butanone (MEK)	ND		45.7	8.12	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Carbon disulfide	ND		11.4	2.66	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Carbon tetrachloride	ND		11.4	7.43	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Chlorobenzene	ND		11.4	2.09	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Chlorodibromomethane	ND		11.4	6.35	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Chloroethane	ND		11.4	6.26	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Chloroform	ND		11.4	1.80	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Chloromethane	ND		11.4	5.21	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
cis-1,2-Dichloroethene	ND		11.4	3.38	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
cis-1,3-Dichloropropene	ND		11.4	6.58	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Cyclohexane	ND		22.8	3.14	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,2-Dibromo-3-Chloropropane	ND		22.8	8.24	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,2-Dichlorobenzene	ND		11.4	2.54	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,3-Dichlorobenzene	ND		11.4	3.76	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,4-Dichlorobenzene	ND		11.4	2.01	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Dichlorobromomethane	ND		11.4	3.43	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Dichlorodifluoromethane	ND		11.4	5.17	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1-Dichloroethane	ND		11.4	3.23	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,2-Dichloroethane	ND		11.4	4.12	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1-Dichloroethene	ND		11.4	4.16	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,2-Dichloropropane	ND		11.4	1.94	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Ethylbenzene	ND		11.4	2.39	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Ethylene Dibromide	ND		11.4	1.76	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
2-Hexanone	ND		45.7	9.33	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Isopropylbenzene	ND		11.4	4.38	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Methyl acetate	ND		57.1	7.77	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Methylcyclohexane	ND		22.8	2.80	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Methylene Chloride	ND		57.1	27.4	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
4-Methyl-2-pentanone (MIBK)	ND		45.7	8.48	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Methyl tert-butyl ether	ND		11.4	4.52	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Styrene	ND		11.4	2.64	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1,2,2-Tetrachloroethane	ND		11.4	3.27	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Tetrachloroethene	ND		11.4	8.87	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Toluene	ND		11.4	1.77	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
trans-1,2-Dichloroethene	ND		11.4	3.24	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
trans-1,3-Dichloropropene	ND		11.4	8.47	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,2,4-Trichlorobenzene	ND		11.4	5.71	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1,1-Trichloroethane	ND		11.4	4.04	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1,2-Trichloroethane	ND		11.4	2.59	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Trichloroethene	ND		11.4	3.27	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Trichlorofluoromethane	ND		11.4	6.14	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11.4	2.93	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Vinyl chloride	ND		11.4	4.04	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1
Xylenes, Total	ND		22.8	3.62	ug/Kg	☼	11/11/23 10:50	11/18/23 06:32	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-4

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2

Matrix: Solid
Percent Solids: 50.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 143*	*11/11/23 10:50*	*11/18/23 06:32*	*1*
Dibromofluoromethane (Surr)	*93*		*41 - 138*	*11/11/23 10:50*	*11/18/23 06:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*58 - 125*	*11/11/23 10:50*	*11/18/23 06:32*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 10:50*	*11/18/23 06:32*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Acenaphthylene	ND		79.2	29.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Acetophenone	ND		198	49.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Anthracene	ND		79.2	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Atrazine	ND		653	137	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzaldehyde	ND		653	111	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzo[a]anthracene	**53.9**	**J**	79.2	29.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzo[a]pyrene	**67.3**	**J**	79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzo[b]fluoranthene	**97.7**		79.2	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzo[g,h,i]perylene	**61.4**	**J**	79.2	53.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Benzo[k]fluoranthene	**22.6**	**J**	79.2	19.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
1,1'-Biphenyl	ND		198	55.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Bis(2-chloroethoxy)methane	ND		198	39.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Bis(2-chloroethyl)ether	ND		198	43.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
bis (2-chloroisopropyl) ether	ND		198	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Bis(2-ethylhexyl) phthalate	ND		297	111	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Bromophenyl phenyl ether	ND		198	63.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Butyl benzyl phthalate	ND		297	101	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Caprolactam	ND		653	137	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Carbazole	ND		198	53.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Chloroaniline	ND		297	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Chloro-3-methylphenol	ND		297	75.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Chloronaphthalene	ND		198	55.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Chlorophenol	ND		198	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Chlorophenyl phenyl ether	ND		198	55.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Chrysene	**84.1**		79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Dibenz(a,h)anthracene	**30.2**	**J**	79.2	29.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Dibenzofuran	ND		198	57.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
3,3'-Dichlorobenzidine	ND		297	188	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4-Dichlorophenol	ND		297	53.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Diethyl phthalate	ND		297	85.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4-Dimethylphenol	ND		297	71.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Dimethyl phthalate	ND		297	79.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Di-n-butyl phthalate	**108**	**J B**	297	47.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4,6-Dinitro-2-methylphenol	ND		653	206	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4-Dinitrophenol	ND		653	339	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4-Dinitrotoluene	ND		396	45.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,6-Dinitrotoluene	ND		396	71.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Di-n-octyl phthalate	ND		297	99.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Fluoranthene	**89.5**		79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Fluorene	ND		79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Hexachlorobenzene	ND		79.2	27.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Hexachlorobutadiene	ND		198	41.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-4

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2

Matrix: Solid
Percent Solids: 50.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		653	77.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Hexachloroethane	ND		198	63.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Indeno[1,2,3-cd]pyrene	**56.9**	**J**	79.2	23.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Isophorone	ND		198	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Methylnaphthalene	ND		79.2	25.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Methylphenol	ND		396	81.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
3 & 4 Methylphenol	ND		792	81.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Naphthalene	ND		79.2	25.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Nitroaniline	ND		396	75.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
3-Nitroaniline	ND		396	69.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Nitroaniline	ND		396	51.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Nitrobenzene	ND		198	43.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2-Nitrophenol	ND		198	69.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
4-Nitrophenol	ND		653	178	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
N-Nitrosodi-n-propylamine	ND		198	73.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
N-Nitrosodiphenylamine	ND		198	53.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Pentachlorophenol	ND		534	208	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Phenanthrene	**62.4**	**J**	79.2	25.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Phenol	ND		198	75.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
Pyrene	**92.3**		79.2	31.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4,5-Trichlorophenol	ND		297	65.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1
2,4,6-Trichlorophenol	ND		297	57.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*47*		*34 - 120*	*11/15/23 08:00*	*11/16/23 15:18*	*1*
2-Fluorophenol (Surr)	*50*		*20 - 120*	*11/15/23 08:00*	*11/16/23 15:18*	*1*
Nitrobenzene-d5 (Surr)	*41*		*25 - 120*	*11/15/23 08:00*	*11/16/23 15:18*	*1*
Phenol-d5 (Surr)	*54*		*26 - 120*	*11/15/23 08:00*	*11/16/23 15:18*	*1*
Terphenyl-d14 (Surr)	*47*		*46 - 137*	*11/15/23 08:00*	*11/16/23 15:18*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*10 - 120*	*11/15/23 08:00*	*11/16/23 15:18*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		19.4	14.6	mg/Kg	☼	11/22/23 08:57	11/27/23 22:27	1
Diesel	ND		19.4	7.74	mg/Kg	☼	11/22/23 08:57	11/27/23 22:27	1
Waste Oil	ND		19.4	3.96	mg/Kg	☼	11/22/23 08:57	11/27/23 22:27	1
Total Extractable Hydrocarbons	**127**	**Z**	29.1	7.74	mg/Kg	☼	11/22/23 08:57	11/27/23 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*102*		*12 - 126*	*11/22/23 08:57*	*11/27/23 22:27*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8780**		34.9	9.31	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Antimony	**1.27**	**J ^1+**	3.49	0.627	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Arsenic	**5.91**		2.62	0.552	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Barium	**90.1**		34.9	0.632	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Beryllium	**0.617**	**J**	0.873	0.0943	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Cadmium	**0.245**	**J**	0.873	0.0838	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Calcium	**4240**		873	63.6	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-4

Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2

Matrix: Solid
Percent Solids: 50.2

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	15.7		1.75	0.599	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Cobalt	6.79		1.75	0.129	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Copper	14.0		4.36	0.412	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Iron	13100		34.9	12.1	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Lead	20.8		1.75	0.492	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Magnesium	1500		873	26.7	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Manganese	125		2.62	0.452	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Nickel	14.0		6.98	0.866	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Potassium	624	J	873	62.4	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Selenium	ND		3.49	0.819	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Silver	ND		1.75	0.141	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Sodium	ND		873	248	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Thallium	ND		3.49	0.697	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Vanadium	31.8		8.73	1.43	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1
Zinc	56.5		8.73	2.39	mg/Kg	☼	11/13/23 15:00	11/14/23 21:57	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0386	J	0.196	0.0352	mg/Kg	☼	11/13/23 15:00	11/14/23 10:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	50.2		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	49.8		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-1

Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3

Matrix: Solid
Percent Solids: 51.2

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		32.1	26.9	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Benzene	ND		6.42	0.896	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Bromoform	ND		6.42	3.08	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Bromomethane	ND		6.42	5.33	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
2-Butanone (MEK)	ND		25.7	4.56	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Carbon disulfide	ND		6.42	1.49	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Carbon tetrachloride	ND		6.42	4.17	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Chlorobenzene	ND		6.42	1.18	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Chlorodibromomethane	ND		6.42	3.57	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Chloroethane	ND		6.42	3.52	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Chloroform	ND		6.42	1.01	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Chloromethane	ND		6.42	2.93	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
cis-1,2-Dichloroethene	ND		6.42	1.90	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
cis-1,3-Dichloropropene	ND		6.42	3.70	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Cyclohexane	ND		12.8	1.76	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,2-Dibromo-3-Chloropropane	ND		12.8	4.63	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,2-Dichlorobenzene	ND		6.42	1.43	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,3-Dichlorobenzene	ND		6.42	2.11	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,4-Dichlorobenzene	ND		6.42	1.13	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Dichlorobromomethane	ND		6.42	1.92	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Dichlorodifluoromethane	ND		6.42	2.90	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1-Dichloroethane	ND		6.42	1.82	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,2-Dichloroethane	ND		6.42	2.31	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1-Dichloroethene	ND		6.42	2.34	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,2-Dichloropropane	ND		6.42	1.09	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Ethylbenzene	ND		6.42	1.34	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Ethylene Dibromide	ND		6.42	0.988	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
2-Hexanone	ND		25.7	5.24	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Isopropylbenzene	ND		6.42	2.46	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Methyl acetate	ND		32.1	4.36	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Methylcyclohexane	ND		12.8	1.57	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Methylene Chloride	ND		32.1	15.4	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
4-Methyl-2-pentanone (MIBK)	ND		25.7	4.76	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Methyl tert-butyl ether	ND		6.42	2.54	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Styrene	ND		6.42	1.49	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1,2,2-Tetrachloroethane	ND		6.42	1.84	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Tetrachloroethene	ND		6.42	4.98	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Toluene	ND		6.42	0.992	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
trans-1,2-Dichloroethene	ND		6.42	1.82	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
trans-1,3-Dichloropropene	ND		6.42	4.76	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,2,4-Trichlorobenzene	ND		6.42	3.21	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1,1-Trichloroethane	ND		6.42	2.27	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1,2-Trichloroethane	ND		6.42	1.45	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Trichloroethene	ND		6.42	1.84	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Trichlorofluoromethane	ND		6.42	3.45	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		6.42	1.65	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Vinyl chloride	ND		6.42	2.27	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1
Xylenes, Total	ND		12.8	2.04	ug/Kg	☼	11/11/23 10:50	11/18/23 06:56	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-1

Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3

Matrix: Solid
Percent Solids: 51.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*41 - 143*	*11/11/23 10:50*	*11/18/23 06:56*	*1*
Dibromofluoromethane (Surr)	*92*		*41 - 138*	*11/11/23 10:50*	*11/18/23 06:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*58 - 125*	*11/11/23 10:50*	*11/18/23 06:56*	*1*
Toluene-d8 (Surr)	*108*		*56 - 125*	*11/11/23 10:50*	*11/18/23 06:56*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Acenaphthylene	ND		76.9	28.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Acetophenone	ND		192	48.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Anthracene	ND		76.9	23.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Atrazine	ND		635	133	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzaldehyde	ND		635	108	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzo[a]anthracene	ND		76.9	28.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzo[a]pyrene	**34.8**	**J**	76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzo[b]fluoranthene	ND		76.9	23.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzo[g,h,i]perylene	ND		76.9	51.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Benzo[k]fluoranthene	ND		76.9	19.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
1,1'-Biphenyl	ND		192	53.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Bis(2-chloroethoxy)methane	ND		192	38.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Bis(2-chloroethyl)ether	ND		192	42.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
bis (2-chloroisopropyl) ether	ND		192	50.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Bis(2-ethylhexyl) phthalate	ND		289	108	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Bromophenyl phenyl ether	ND		192	61.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Butyl benzyl phthalate	ND		289	98.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Caprolactam	ND		635	133	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Carbazole	ND		192	51.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Chloroaniline	ND		289	30.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Chloro-3-methylphenol	ND		289	73.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Chloronaphthalene	ND		192	53.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Chlorophenol	ND		192	50.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Chlorophenyl phenyl ether	ND		192	53.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Chrysene	ND		76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Dibenz(a,h)anthracene	ND		76.9	28.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Dibenzofuran	ND		192	55.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
3,3'-Dichlorobenzidine	ND		289	183	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4-Dichlorophenol	ND		289	51.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Diethyl phthalate	ND		289	82.7	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4-Dimethylphenol	ND		289	69.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Dimethyl phthalate	ND		289	76.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Di-n-butyl phthalate	**101**	**J B**	289	46.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4,6-Dinitro-2-methylphenol	ND		635	200	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4-Dinitrophenol	ND		635	329	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4-Dinitrotoluene	ND		385	44.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,6-Dinitrotoluene	ND		385	69.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Di-n-octyl phthalate	ND		289	96.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Fluoranthene	ND		76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Fluorene	ND		76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Hexachlorobenzene	ND		76.9	26.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Hexachlorobutadiene	ND		192	40.4	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-1

Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3

Matrix: Solid
Percent Solids: 51.2

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		635	75.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Hexachloroethane	ND		192	61.6	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Indeno[1,2,3-cd]pyrene	ND		76.9	23.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Isophorone	ND		192	50.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Methylnaphthalene	ND		76.9	25.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Methylphenol	ND		385	78.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
3 & 4 Methylphenol	ND		769	78.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Naphthalene	ND		76.9	25.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Nitroaniline	ND		385	73.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
3-Nitroaniline	ND		385	67.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Nitroaniline	ND		385	50.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Nitrobenzene	ND		192	42.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2-Nitrophenol	ND		192	67.3	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
4-Nitrophenol	ND		635	173	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
N-Nitrosodi-n-propylamine	ND		192	71.2	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
N-Nitrosodiphenylamine	ND		192	51.9	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Pentachlorophenol	ND		519	202	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Phenanthrene	**30.2**	**J**	76.9	25.0	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Phenol	ND		192	73.1	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
Pyrene	ND		76.9	30.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4,5-Trichlorophenol	ND		289	63.5	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1
2,4,6-Trichlorophenol	ND		289	55.8	ug/Kg	☼	11/15/23 08:00	11/16/23 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*51*		*34 - 120*	*11/15/23 08:00*	*11/16/23 15:41*	*1*
2-Fluorophenol (Surr)	*52*		*20 - 120*	*11/15/23 08:00*	*11/16/23 15:41*	*1*
Nitrobenzene-d5 (Surr)	*31*		*25 - 120*	*11/15/23 08:00*	*11/16/23 15:41*	*1*
Phenol-d5 (Surr)	*50*		*26 - 120*	*11/15/23 08:00*	*11/16/23 15:41*	*1*
Terphenyl-d14 (Surr)	*44*	*S1-*	*46 - 137*	*11/15/23 08:00*	*11/16/23 15:41*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*10 - 120*	*11/15/23 08:00*	*11/16/23 15:41*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		18.7	14.0	mg/Kg	☼	11/22/23 08:57	11/27/23 22:42	1
Diesel	ND		18.7	7.46	mg/Kg	☼	11/22/23 08:57	11/27/23 22:42	1
Waste Oil	ND		18.7	3.82	mg/Kg	☼	11/22/23 08:57	11/27/23 22:42	1
Total Extractable Hydrocarbons	**62.5**	**Z**	28.1	7.46	mg/Kg	☼	11/22/23 08:57	11/27/23 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*12 - 126*	*11/22/23 08:57*	*11/27/23 22:42*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**17100**		38.7	10.3	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Antimony	ND	^1+	3.87	0.695	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Arsenic	**11.1**		2.90	0.611	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Barium	**181**		38.7	0.701	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Beryllium	**0.832**	**J**	0.968	0.104	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Cadmium	ND		0.968	0.0929	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Calcium	**3960**		968	70.5	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-1

Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3

Matrix: Solid
Percent Solids: 51.2

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	21.2		1.94	0.664	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Cobalt	12.0		1.94	0.143	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Copper	17.5		4.84	0.457	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Iron	23600		38.7	13.4	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Lead	19.3		1.94	0.546	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Magnesium	2870		968	29.6	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Manganese	614		2.90	0.501	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Nickel	18.3		7.74	0.960	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Potassium	1290		968	69.2	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Selenium	0.926	J	3.87	0.908	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Silver	ND		1.94	0.157	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Sodium	ND		968	274	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Thallium	ND		3.87	0.772	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Vanadium	43.1		9.68	1.59	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1
Zinc	65.2		9.68	2.65	mg/Kg	☼	11/13/23 15:00	11/14/23 22:02	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0510	J	0.199	0.0358	mg/Kg	☼	11/13/23 15:00	11/14/23 10:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	51.2		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	48.8		0.1	0.1	%			11/13/23 10:23	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-2

Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4

Matrix: Solid
Percent Solids: 56.0

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		42.9	36.0	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Benzene	ND		8.58	1.20	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Bromoform	ND		8.58	4.12	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Bromomethane	ND		8.58	7.12	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
2-Butanone (MEK)	ND		34.3	6.10	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Carbon disulfide	ND		8.58	2.00	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Carbon tetrachloride	ND		8.58	5.58	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Chlorobenzene	ND		8.58	1.57	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Chlorodibromomethane	ND		8.58	4.77	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Chloroethane	ND		8.58	4.70	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Chloroform	ND		8.58	1.35	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Chloromethane	ND		8.58	3.91	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
cis-1,2-Dichloroethene	ND		8.58	2.54	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
cis-1,3-Dichloropropene	ND		8.58	4.94	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Cyclohexane	ND		17.2	2.36	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,2-Dibromo-3-Chloropropane	ND		17.2	6.19	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,2-Dichlorobenzene	ND		8.58	1.91	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,3-Dichlorobenzene	ND		8.58	2.83	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,4-Dichlorobenzene	ND		8.58	1.51	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Dichlorobromomethane	ND		8.58	2.57	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Dichlorodifluoromethane	ND		8.58	3.88	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1-Dichloroethane	ND		8.58	2.43	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,2-Dichloroethane	ND		8.58	3.09	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1-Dichloroethene	ND		8.58	3.12	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,2-Dichloropropane	ND		8.58	1.46	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Ethylbenzene	ND		8.58	1.80	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Ethylene Dibromide	ND		8.58	1.32	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
2-Hexanone	ND		34.3	7.01	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Isopropylbenzene	ND		8.58	3.30	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Methyl acetate	ND		42.9	5.84	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Methylcyclohexane	ND		17.2	2.11	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Methylene Chloride	ND		42.9	20.6	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
4-Methyl-2-pentanone (MIBK)	ND		34.3	6.37	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Methyl tert-butyl ether	ND		8.58	3.40	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Styrene	ND		8.58	1.99	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1,2,2-Tetrachloroethane	ND		8.58	2.46	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Tetrachloroethene	ND		8.58	6.66	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Toluene	ND		8.58	1.33	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
trans-1,2-Dichloroethene	ND		8.58	2.44	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
trans-1,3-Dichloropropene	ND		8.58	6.37	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,2,4-Trichlorobenzene	ND		8.58	4.29	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1,1-Trichloroethane	ND		8.58	3.04	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1,2-Trichloroethane	ND		8.58	1.94	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Trichloroethene	ND		8.58	2.46	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Trichlorofluoromethane	ND		8.58	4.62	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.58	2.20	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Vinyl chloride	ND		8.58	3.04	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1
Xylenes, Total	ND		17.2	2.72	ug/Kg	☼	11/11/23 10:50	11/18/23 07:20	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-2

Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4

Matrix: Solid
Percent Solids: 56.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*41 - 143*	*11/11/23 10:50*	*11/18/23 07:20*	*1*
Dibromofluoromethane (Surr)	*90*		*41 - 138*	*11/11/23 10:50*	*11/18/23 07:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*58 - 125*	*11/11/23 10:50*	*11/18/23 07:20*	*1*
Toluene-d8 (Surr)	*107*		*56 - 125*	*11/11/23 10:50*	*11/18/23 07:20*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Acenaphthylene	ND		69.9	26.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Acetophenone	ND		175	43.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Anthracene	ND		69.9	21.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Atrazine	ND		577	121	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzaldehyde	ND		577	97.9	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzo[a]anthracene	ND		69.9	26.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzo[a]pyrene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzo[b]fluoranthene	ND		69.9	21.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzo[g,h,i]perylene	ND		69.9	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Benzo[k]fluoranthene	ND		69.9	17.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
1,1'-Biphenyl	ND		175	49.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Bis(2-chloroethoxy)methane	ND		175	35.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Bis(2-chloroethyl)ether	ND		175	38.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
bis (2-chloroisopropyl) ether	ND		175	45.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Bis(2-ethylhexyl) phthalate	ND		262	97.9	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Bromophenyl phenyl ether	ND		175	56.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Butyl benzyl phthalate	ND		262	89.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Caprolactam	ND		577	121	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Carbazole	ND		175	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Chloroaniline	ND		262	28.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Chloro-3-methylphenol	ND		262	66.4	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Chloronaphthalene	ND		175	49.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Chlorophenol	ND		175	45.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Chlorophenyl phenyl ether	ND		175	49.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Chrysene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Dibenz(a,h)anthracene	ND		69.9	26.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Dibenzofuran	ND		175	50.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
3,3'-Dichlorobenzidine	ND		262	166	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4-Dichlorophenol	ND		262	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Diethyl phthalate	ND		262	75.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4-Dimethylphenol	ND		262	63.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Dimethyl phthalate	ND		262	69.9	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Di-n-butyl phthalate	**93.3**	**J B**	262	42.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4,6-Dinitro-2-methylphenol	ND		577	182	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4-Dinitrophenol	ND		577	299	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4-Dinitrotoluene	ND		350	40.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,6-Dinitrotoluene	ND		350	63.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Di-n-octyl phthalate	ND		262	87.4	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Fluoranthene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Fluorene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Hexachlorobenzene	ND		69.9	24.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Hexachlorobutadiene	ND		175	36.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1

Client Sample ID: SD-2

Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4

Matrix: Solid
Percent Solids: 56.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		577	68.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Hexachloroethane	ND		175	56.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Indeno[1,2,3-cd]pyrene	ND		69.9	21.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Isophorone	ND		175	45.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Methylnaphthalene	ND		69.9	22.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Methylphenol	ND		350	71.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
3 & 4 Methylphenol	ND		699	71.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Naphthalene	ND		69.9	22.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Nitroaniline	ND		350	66.4	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
3-Nitroaniline	ND		350	61.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Nitroaniline	ND		350	45.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Nitrobenzene	ND		175	38.5	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2-Nitrophenol	ND		175	61.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
4-Nitrophenol	ND		577	157	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
N-Nitrosodi-n-propylamine	ND		175	64.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
N-Nitrosodiphenylamine	ND		175	47.2	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Pentachlorophenol	ND		472	184	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Phenanthrene	ND		69.9	22.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Phenol	ND		175	66.4	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
Pyrene	ND		69.9	28.0	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4,5-Trichlorophenol	ND		262	57.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1
2,4,6-Trichlorophenol	ND		262	50.7	ug/Kg	☼	11/15/23 08:00	11/16/23 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*53*		*34 - 120*	*11/15/23 08:00*	*11/16/23 16:05*	*1*
2-Fluorophenol (Surr)	*58*		*20 - 120*	*11/15/23 08:00*	*11/16/23 16:05*	*1*
Nitrobenzene-d5 (Surr)	*56*		*25 - 120*	*11/15/23 08:00*	*11/16/23 16:05*	*1*
Phenol-d5 (Surr)	*60*		*26 - 120*	*11/15/23 08:00*	*11/16/23 16:05*	*1*
Terphenyl-d14 (Surr)	*52*		*46 - 137*	*11/15/23 08:00*	*11/16/23 16:05*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*10 - 120*	*11/15/23 08:00*	*11/16/23 16:05*	*1*

Method: Iowa DNR OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		17.7	13.2	mg/Kg	☼	11/22/23 08:57	11/27/23 22:57	1
Diesel	ND		17.7	7.05	mg/Kg	☼	11/22/23 08:57	11/27/23 22:57	1
Waste Oil	ND		17.7	3.60	mg/Kg	☼	11/22/23 08:57	11/27/23 22:57	1
Total Extractable Hydrocarbons	**123**	**Z**	26.5	7.05	mg/Kg	☼	11/22/23 08:57	11/27/23 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*104*		*12 - 126*	*11/22/23 08:57*	*11/27/23 22:57*	*1*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**16000**		30.5	8.14	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Antimony	**0.585**	**J ^1+**	3.05	0.548	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Arsenic	**10.3**		2.29	0.482	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Barium	**188**		30.5	0.553	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Beryllium	**0.870**		0.763	0.0824	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Cadmium	ND		0.763	0.0733	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Calcium	**3560**		763	55.6	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1

Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-2

Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4

Matrix: Solid
Percent Solids: 56.0

Method: SW846 6010D - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	19.8		1.53	0.524	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Cobalt	12.9		1.53	0.113	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Copper	16.6		3.82	0.360	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Iron	21500		30.5	10.6	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Lead	23.0		1.53	0.430	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Magnesium	2670		763	23.3	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Manganese	454		2.29	0.395	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Nickel	19.4		6.11	0.757	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Potassium	1270		763	54.6	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Selenium	ND		3.05	0.716	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Silver	ND		1.53	0.124	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Sodium	ND		763	217	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Thallium	ND		3.05	0.609	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Vanadium	42.7		7.63	1.25	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1
Zinc	58.5		7.63	2.09	mg/Kg	☼	11/13/23 15:00	11/14/23 22:06	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0399	J	0.165	0.0297	mg/Kg	☼	11/13/23 15:00	11/14/23 10:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids (EPA Moisture)	56.0		0.1	0.1	%			11/13/23 10:23	1
Percent Moisture (EPA Moisture)	44.0		0.1	0.1	%			11/13/23 10:23	1

Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(41-143)	(41-138)	(58-125)	(56-125)
240-195282-1	SD-3	110	88	103	108
240-195282-2	SD-4	108	93	105	108
240-195282-3	SD-1	109	92	102	108
240-195282-4	SD-2	107	90	100	107
LCS 240-595108/4	Lab Control Sample	109	99	98	108
MB 240-595108/6	Method Blank	107	91	98	106

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(20-120)	(25-120)	(26-120)	(46-137)	(10-120)
240-195282-1	SD-3	56	58	53	59	56	53
240-195282-2	SD-4	47	50	41	54	47	52
240-195282-3	SD-1	51	52	31	50	44 S1-	54
240-195282-4	SD-2	53	58	56	60	52	50
LCS 240-594638/2-A	Lab Control Sample	72	75	80	78	75	80
MB 240-594638/1-A	Method Blank	70	72	70	73	74	73

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		OTCN
Lab Sample ID	Client Sample ID	(12-126)
240-195282-1	SD-3	94
240-195282-2	SD-4	102
240-195282-3	SD-1	86
240-195282-4	SD-2	104
LCS 310-406880/2-A	Lab Control Sample	91
MB 310-406880/1-A	Method Blank	86

Surrogate Legend

OTCN = n-Octacosane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-595108/6
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	21.0	ug/Kg			11/18/23 00:08	1
Benzene	ND		5.00	0.698	ug/Kg			11/18/23 00:08	1
Bromoform	ND		5.00	2.40	ug/Kg			11/18/23 00:08	1
Bromomethane	ND		5.00	4.15	ug/Kg			11/18/23 00:08	1
2-Butanone (MEK)	ND		20.0	3.56	ug/Kg			11/18/23 00:08	1
Carbon disulfide	ND		5.00	1.16	ug/Kg			11/18/23 00:08	1
Carbon tetrachloride	ND		5.00	3.25	ug/Kg			11/18/23 00:08	1
Chlorobenzene	ND		5.00	0.916	ug/Kg			11/18/23 00:08	1
Chlorodibromomethane	ND		5.00	2.78	ug/Kg			11/18/23 00:08	1
Chloroethane	ND		5.00	2.74	ug/Kg			11/18/23 00:08	1
Chloroform	ND		5.00	0.788	ug/Kg			11/18/23 00:08	1
Chloromethane	ND		5.00	2.28	ug/Kg			11/18/23 00:08	1
cis-1,2-Dichloroethene	ND		5.00	1.48	ug/Kg			11/18/23 00:08	1
cis-1,3-Dichloropropene	ND		5.00	2.88	ug/Kg			11/18/23 00:08	1
Cyclohexane	ND		10.0	1.38	ug/Kg			11/18/23 00:08	1
1,2-Dibromo-3-Chloropropane	ND		10.0	3.61	ug/Kg			11/18/23 00:08	1
1,2-Dichlorobenzene	ND		5.00	1.11	ug/Kg			11/18/23 00:08	1
1,3-Dichlorobenzene	ND		5.00	1.65	ug/Kg			11/18/23 00:08	1
1,4-Dichlorobenzene	ND		5.00	0.882	ug/Kg			11/18/23 00:08	1
Dichlorobromomethane	ND		5.00	1.50	ug/Kg			11/18/23 00:08	1
Dichlorodifluoromethane	ND		5.00	2.26	ug/Kg			11/18/23 00:08	1
1,1-Dichloroethane	ND		5.00	1.42	ug/Kg			11/18/23 00:08	1
1,2-Dichloroethane	ND		5.00	1.80	ug/Kg			11/18/23 00:08	1
1,1-Dichloroethene	ND		5.00	1.82	ug/Kg			11/18/23 00:08	1
1,2-Dichloropropane	ND		5.00	0.851	ug/Kg			11/18/23 00:08	1
Ethylbenzene	ND		5.00	1.05	ug/Kg			11/18/23 00:08	1
Ethylene Dibromide	ND		5.00	0.770	ug/Kg			11/18/23 00:08	1
2-Hexanone	ND		20.0	4.08	ug/Kg			11/18/23 00:08	1
Isopropylbenzene	ND		5.00	1.92	ug/Kg			11/18/23 00:08	1
Methyl acetate	ND		25.0	3.40	ug/Kg			11/18/23 00:08	1
Methylcyclohexane	ND		10.0	1.23	ug/Kg			11/18/23 00:08	1
Methylene Chloride	ND		25.0	12.0	ug/Kg			11/18/23 00:08	1
4-Methyl-2-pentanone (MIBK)	ND		20.0	3.71	ug/Kg			11/18/23 00:08	1
Methyl tert-butyl ether	ND		5.00	1.98	ug/Kg			11/18/23 00:08	1
Styrene	ND		5.00	1.16	ug/Kg			11/18/23 00:08	1
1,1,2,2-Tetrachloroethane	ND		5.00	1.43	ug/Kg			11/18/23 00:08	1
Tetrachloroethene	ND		5.00	3.88	ug/Kg			11/18/23 00:08	1
Toluene	ND		5.00	0.773	ug/Kg			11/18/23 00:08	1
trans-1,2-Dichloroethene	ND		5.00	1.42	ug/Kg			11/18/23 00:08	1
trans-1,3-Dichloropropene	ND		5.00	3.71	ug/Kg			11/18/23 00:08	1
1,2,4-Trichlorobenzene	ND		5.00	2.50	ug/Kg			11/18/23 00:08	1
1,1,1-Trichloroethane	ND		5.00	1.77	ug/Kg			11/18/23 00:08	1
1,1,2-Trichloroethane	ND		5.00	1.13	ug/Kg			11/18/23 00:08	1
Trichloroethene	ND		5.00	1.43	ug/Kg			11/18/23 00:08	1
Trichlorofluoromethane	ND		5.00	2.69	ug/Kg			11/18/23 00:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.00	1.28	ug/Kg			11/18/23 00:08	1
Vinyl chloride	ND		5.00	1.77	ug/Kg			11/18/23 00:08	1
Xylenes, Total	ND		10.0	1.59	ug/Kg			11/18/23 00:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-595108/6
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		41 - 143		11/18/23 00:08	1
Dibromofluoromethane (Surr)	91		41 - 138		11/18/23 00:08	1
1,2-Dichloroethane-d4 (Surr)	98		58 - 125		11/18/23 00:08	1
Toluene-d8 (Surr)	106		56 - 125		11/18/23 00:08	1

Lab Sample ID: LCS 240-595108/4
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	50.0	47.28		ug/Kg		95	58 - 160
Benzene	25.0	25.18		ug/Kg		101	76 - 121
Bromoform	25.0	19.10		ug/Kg		76	57 - 140
Bromomethane	25.0	31.48		ug/Kg		126	10 - 171
2-Butanone (MEK)	50.0	48.12		ug/Kg		96	63 - 142
Carbon disulfide	25.0	25.76		ug/Kg		103	43 - 152
Carbon tetrachloride	25.0	20.86		ug/Kg		83	64 - 144
Chlorobenzene	25.0	24.19		ug/Kg		97	80 - 120
Chlorodibromomethane	25.0	22.01		ug/Kg		88	68 - 131
Chloroethane	25.0	25.10		ug/Kg		100	11 - 164
Chloroform	25.0	22.47		ug/Kg		90	78 - 120
Chloromethane	25.0	26.55		ug/Kg		106	41 - 142
cis-1,2-Dichloroethene	25.0	23.87		ug/Kg		95	78 - 124
cis-1,3-Dichloropropene	25.0	22.15		ug/Kg		89	70 - 133
Cyclohexane	25.0	26.25		ug/Kg		105	65 - 137
1,2-Dibromo-3-Chloropropane	25.0	20.60		ug/Kg		82	52 - 133
1,2-Dichlorobenzene	25.0	24.65		ug/Kg		99	73 - 120
1,3-Dichlorobenzene	25.0	25.25		ug/Kg		101	73 - 120
1,4-Dichlorobenzene	25.0	24.43		ug/Kg		98	74 - 120
Dichlorobromomethane	25.0	22.56		ug/Kg		90	71 - 138
Dichlorodifluoromethane	25.0	24.76		ug/Kg		99	21 - 150
1,1-Dichloroethane	25.0	25.14		ug/Kg		101	74 - 121
1,2-Dichloroethane	25.0	21.99		ug/Kg		88	71 - 123
1,1-Dichloroethene	25.0	25.61		ug/Kg		102	68 - 141
1,2-Dichloropropane	25.0	26.33		ug/Kg		105	76 - 126
Ethylbenzene	25.0	24.41		ug/Kg		98	80 - 120
Ethylene Dibromide	25.0	23.27		ug/Kg		93	80 - 121
2-Hexanone	50.0	55.15		ug/Kg		110	65 - 142
Isopropylbenzene	25.0	25.36		ug/Kg		101	80 - 130
Methyl acetate	50.0	47.36		ug/Kg		95	60 - 133
Methylcyclohexane	25.0	25.20		ug/Kg		101	70 - 138
Methylene Chloride	25.0	24.71	J	ug/Kg		99	71 - 124
4-Methyl-2-pentanone (MIBK)	50.0	51.91		ug/Kg		104	62 - 142
Methyl tert-butyl ether	25.0	22.79		ug/Kg		91	70 - 130
m-Xylene & p-Xylene	25.0	24.10		ug/Kg		96	80 - 122
o-Xylene	25.0	24.14		ug/Kg		97	80 - 124
Styrene	25.0	24.82		ug/Kg		99	75 - 140
1,1,2,2-Tetrachloroethane	25.0	24.99		ug/Kg		100	66 - 129

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-595108/4
Matrix: Solid
Analysis Batch: 595108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	25.0	24.05		ug/Kg		96	76 - 127
Toluene	25.0	25.01		ug/Kg		100	80 - 120
trans-1,2-Dichloroethene	25.0	25.37		ug/Kg		101	76 - 130
trans-1,3-Dichloropropene	25.0	24.77		ug/Kg		99	61 - 121
1,2,4-Trichlorobenzene	25.0	26.19		ug/Kg		105	58 - 132
1,1,1-Trichloroethane	25.0	22.93		ug/Kg		92	74 - 136
1,1,2-Trichloroethane	25.0	25.80		ug/Kg		103	79 - 120
Trichloroethene	25.0	23.33		ug/Kg		93	74 - 130
Trichlorofluoromethane	25.0	25.94		ug/Kg		104	50 - 154
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.44		ug/Kg		98	64 - 148
Vinyl chloride	25.0	26.40		ug/Kg		106	49 - 146
Xylenes, Total	50.0	48.24		ug/Kg		96	80 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*41 - 143*
Dibromofluoromethane (Surr)	*99*		*41 - 138*
1,2-Dichloroethane-d4 (Surr)	*98*		*58 - 125*
Toluene-d8 (Surr)	*108*		*56 - 125*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-594638/1-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Acenaphthylene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Acetophenone	ND		100	25.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Anthracene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Atrazine	ND		330	69.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzaldehyde	ND		330	56.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[a]anthracene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[a]pyrene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[b]fluoranthene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[g,h,i]perylene	ND		40.0	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Benzo[k]fluoranthene	ND		40.0	10.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
1,1'-Biphenyl	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-chloroethoxy)methane	ND		100	20.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-chloroethyl)ether	ND		100	22.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
bis (2-chloroisopropyl) ether	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Bis(2-ethylhexyl) phthalate	ND		150	56.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Bromophenyl phenyl ether	ND		100	32.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Butyl benzyl phthalate	ND		150	51.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Caprolactam	ND		330	69.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Carbazole	ND		100	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chloroaniline	ND		150	16.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chloro-3-methylphenol	ND		150	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594638/1-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Chlorophenol	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Chlorophenyl phenyl ether	ND		100	28.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Chrysene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dibenz(a,h)anthracene	ND		40.0	15.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dibenzofuran	ND		100	29.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3,3'-Dichlorobenzidine	ND		150	95.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dichlorophenol	ND		150	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Diethyl phthalate	ND		150	43.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dimethylphenol	ND		150	36.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Dimethyl phthalate	ND		150	40.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Di-n-butyl phthalate	56.73	J	150	24.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4,6-Dinitro-2-methylphenol	ND		330	104	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dinitrophenol	ND		330	171	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4-Dinitrotoluene	ND		200	23.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,6-Dinitrotoluene	ND		200	36.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Di-n-octyl phthalate	ND		150	50.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Fluoranthene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Fluorene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorobenzene	ND		40.0	14.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorobutadiene	ND		100	21.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachlorocyclopentadiene	ND		330	39.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Hexachloroethane	ND		100	32.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Indeno[1,2,3-cd]pyrene	ND		40.0	12.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Isophorone	ND		100	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Methylnaphthalene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Methylphenol	ND		200	41.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3 & 4 Methylphenol	ND		400	41.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Naphthalene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Nitroaniline	ND		200	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
3-Nitroaniline	ND		200	35.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Nitroaniline	ND		200	26.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Nitrobenzene	ND		100	22.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2-Nitrophenol	ND		100	35.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
4-Nitrophenol	ND		330	90.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
N-Nitrosodi-n-propylamine	ND		100	37.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
N-Nitrosodiphenylamine	ND		100	27.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Pentachlorophenol	ND		270	105	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Phenanthrene	ND		40.0	13.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Phenol	ND		100	38.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
Pyrene	ND		40.0	16.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4,5-Trichlorophenol	ND		150	33.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1
2,4,6-Trichlorophenol	ND		150	29.0	ug/Kg		11/15/23 08:00	11/16/23 08:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*34 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
2-Fluorophenol (Surr)	*72*		*20 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*
Nitrobenzene-d5 (Surr)	*70*		*25 - 120*	*11/15/23 08:00*	*11/16/23 08:22*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-594638/1-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594638

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	73		26 - 120	11/15/23 08:00	11/16/23 08:22	1
Terphenyl-d14 (Surr)	74		46 - 137	11/15/23 08:00	11/16/23 08:22	1
2,4,6-Tribromophenol (Surr)	73		10 - 120	11/15/23 08:00	11/16/23 08:22	1

Lab Sample ID: LCS 240-594638/2-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	1330	969.8		ug/Kg		73	52 - 120
Acenaphthylene	1330	971.1		ug/Kg		73	52 - 120
Acetophenone	1330	1008		ug/Kg		76	47 - 120
Anthracene	1330	1042		ug/Kg		78	64 - 120
Atrazine	2670	2338		ug/Kg		88	71 - 125
Benzaldehyde	2670	1985		ug/Kg		74	42 - 120
Benzo[a]anthracene	1330	1029		ug/Kg		77	70 - 120
Benzo[a]pyrene	1330	967.3		ug/Kg		73	63 - 125
Benzo[b]fluoranthene	1330	1086		ug/Kg		81	64 - 121
Benzo[g,h,i]perylene	1330	1052		ug/Kg		79	62 - 120
Benzo[k]fluoranthene	1330	1033		ug/Kg		77	63 - 128
1,1'-Biphenyl	1330	973.3		ug/Kg		73	50 - 120
Bis(2-chloroethoxy)methane	1330	975.9		ug/Kg		73	50 - 120
Bis(2-chloroethyl)ether	1330	878.5		ug/Kg		66	42 - 120
bis (2-chloroisopropyl) ether	1330	993.4		ug/Kg		75	38 - 120
Bis(2-ethylhexyl) phthalate	1330	976.9		ug/Kg		73	63 - 133
4-Bromophenyl phenyl ether	1330	1057		ug/Kg		79	65 - 120
Butyl benzyl phthalate	1330	991.8		ug/Kg		74	66 - 127
Caprolactam	2670	2028		ug/Kg		76	67 - 120
Carbazole	1330	1142		ug/Kg		86	61 - 129
4-Chloroaniline	1330	594.6		ug/Kg		45	29 - 120
4-Chloro-3-methylphenol	1330	1081		ug/Kg		81	51 - 120
2-Chloronaphthalene	1330	959.5		ug/Kg		72	51 - 120
2-Chlorophenol	1330	995.3		ug/Kg		75	47 - 120
4-Chlorophenyl phenyl ether	1330	993.2		ug/Kg		74	59 - 120
Chrysene	1330	967.1		ug/Kg		73	67 - 120
Dibenz(a,h)anthracene	1330	982.9		ug/Kg		74	62 - 120
Dibenzofuran	1330	955.2		ug/Kg		72	55 - 120
3,3'-Dichlorobenzidine	2670	1836		ug/Kg		69	27 - 199
2,4-Dichlorophenol	1330	969.2		ug/Kg		73	50 - 120
Diethyl phthalate	1330	1104		ug/Kg		83	61 - 120
2,4-Dimethylphenol	1330	830.4		ug/Kg		62	24 - 120
Dimethyl phthalate	1330	1031		ug/Kg		77	64 - 120
Di-n-butyl phthalate	1330	1071		ug/Kg		80	70 - 129
4,6-Dinitro-2-methylphenol	2670	1175		ug/Kg		44	10 - 120
2,4-Dinitrophenol	2670	779.9		ug/Kg		29	10 - 120
2,4-Dinitrotoluene	1330	1045		ug/Kg		78	64 - 120
2,6-Dinitrotoluene	1330	1025		ug/Kg		77	62 - 120
Di-n-octyl phthalate	1330	974.4		ug/Kg		73	64 - 129

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-594638/2-A
Matrix: Solid
Analysis Batch: 594789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoranthene	1330	1042		ug/Kg		78	71 - 124
Fluorene	1330	1026		ug/Kg		77	58 - 120
Hexachlorobenzene	1330	1031		ug/Kg		77	59 - 120
Hexachlorobutadiene	1330	965.7		ug/Kg		72	45 - 120
Hexachlorocyclopentadiene	1330	696.4		ug/Kg		52	10 - 120
Hexachloroethane	1330	965.6		ug/Kg		72	39 - 120
Indeno[1,2,3-cd]pyrene	1330	997.7		ug/Kg		75	65 - 122
Isophorone	1330	1032		ug/Kg		77	50 - 120
2-Methylnaphthalene	1330	978.9		ug/Kg		73	38 - 120
2-Methylphenol	1330	1023		ug/Kg		77	45 - 120
3 & 4 Methylphenol	1330	960.3		ug/Kg		72	49 - 120
Naphthalene	1330	927.0		ug/Kg		70	34 - 120
2-Nitroaniline	1330	1074		ug/Kg		81	57 - 120
3-Nitroaniline	1330	797.4		ug/Kg		60	41 - 120
4-Nitroaniline	1330	999.5		ug/Kg		75	48 - 128
Nitrobenzene	1330	1049		ug/Kg		79	48 - 120
2-Nitrophenol	1330	978.4		ug/Kg		73	51 - 120
4-Nitrophenol	2670	2241		ug/Kg		84	43 - 120
N-Nitrosodi-n-propylamine	1330	1077		ug/Kg		81	48 - 120
N-Nitrosodiphenylamine	1330	1003		ug/Kg		75	64 - 120
Pentachlorophenol	2670	1971		ug/Kg		74	10 - 120
Phenanthrene	1330	969.5		ug/Kg		73	60 - 120
Phenol	1330	993.6		ug/Kg		75	48 - 120
Pyrene	1330	991.3		ug/Kg		74	67 - 120
2,4,5-Trichlorophenol	1330	1006		ug/Kg		75	50 - 120
2,4,6-Trichlorophenol	1330	1044		ug/Kg		78	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*72*		*34 - 120*
2-Fluorophenol (Surr)	*75*		*20 - 120*
Nitrobenzene-d5 (Surr)	*80*		*25 - 120*
Phenol-d5 (Surr)	*78*		*26 - 120*
Terphenyl-d14 (Surr)	*75*		*46 - 137*
2,4,6-Tribromophenol (Surr)	*80*		*10 - 120*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-406880/1-A
Matrix: Solid
Analysis Batch: 406995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406880

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		9.65	7.24	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Diesel	ND		9.65	3.85	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Waste Oil	ND		9.65	1.97	mg/Kg		11/22/23 08:57	11/27/23 19:43	1
Total Extractable Hydrocarbons	ND		14.5	3.85	mg/Kg		11/22/23 08:57	11/27/23 19:43	1

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: MB 310-406880/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*86*		*12 - 126*	*11/22/23 08:57*	*11/27/23 19:43*	*1*

Lab Sample ID: LCS 310-406880/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 406995 — **Prep Batch: 406880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel	125	89.64		mg/Kg		72	34 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*91*		*12 - 126*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-594406/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 594619 — **Prep Batch: 594406**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20.0	5.33	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Antimony	ND	^1+	2.00	0.359	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Arsenic	ND		1.50	0.316	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Barium	ND		20.0	0.362	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Beryllium	ND		0.500	0.0540	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Cadmium	ND		0.500	0.0480	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Calcium	ND		500	36.5	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Chromium	ND		1.00	0.343	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Cobalt	ND		1.00	0.0740	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Copper	ND		2.50	0.236	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Iron	ND		20.0	6.94	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Lead	ND		1.00	0.282	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Magnesium	ND		500	15.3	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Manganese	ND		1.50	0.259	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Nickel	ND		4.00	0.496	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Potassium	ND		500	35.8	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Selenium	ND		2.00	0.469	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Silver	ND		1.00	0.0810	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Sodium	ND		500	142	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Thallium	ND		2.00	0.399	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Vanadium	ND		5.00	0.822	mg/Kg		11/13/23 15:00	11/14/23 20:10	1
Zinc	ND		5.00	1.37	mg/Kg		11/13/23 15:00	11/14/23 20:10	1

Lab Sample ID: LCS 240-594406/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 594619 — **Prep Batch: 594406**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	1000	928.7		mg/Kg		93	80 - 120
Antimony	100	96.78	^1+	mg/Kg		97	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-594406/2-A
Matrix: Solid
Analysis Batch: 594619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	200	191.0		mg/Kg		95	80 - 120
Barium	200	180.1		mg/Kg		90	80 - 120
Beryllium	100	93.74		mg/Kg		94	80 - 120
Cadmium	100	93.65		mg/Kg		94	80 - 120
Calcium	5000	4611		mg/Kg		92	80 - 120
Chromium	100	92.51		mg/Kg		93	80 - 120
Cobalt	100	95.84		mg/Kg		96	80 - 120
Copper	100	90.05		mg/Kg		90	80 - 120
Iron	1000	927.5		mg/Kg		93	80 - 120
Lead	100	91.78		mg/Kg		92	80 - 120
Magnesium	5000	4664		mg/Kg		93	80 - 120
Manganese	100	92.10		mg/Kg		92	80 - 120
Nickel	100	95.65		mg/Kg		96	80 - 120
Potassium	5000	4675		mg/Kg		93	80 - 120
Selenium	200	191.9		mg/Kg		96	80 - 120
Silver	10.0	9.023		mg/Kg		90	80 - 120
Sodium	5000	4618		mg/Kg		92	80 - 120
Thallium	200	179.9		mg/Kg		90	80 - 120
Vanadium	100	93.13		mg/Kg		93	80 - 120
Zinc	100	96.59		mg/Kg		97	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-594408/1-A
Matrix: Solid
Analysis Batch: 594529

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 594408

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.100	0.0180	mg/Kg		11/13/23 15:00	11/14/23 09:33	1

Lab Sample ID: LCS 240-594408/2-A
Matrix: Solid
Analysis Batch: 594529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 594408

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.833	0.7116		mg/Kg		85	80 - 120

QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

GC/MS VOA

Prep Batch: 594783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	5035	
240-195282-2	SD-4	Total/NA	Solid	5035	
240-195282-3	SD-1	Total/NA	Solid	5035	
240-195282-4	SD-2	Total/NA	Solid	5035	

Analysis Batch: 595108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	8260D	594783
240-195282-2	SD-4	Total/NA	Solid	8260D	594783
240-195282-3	SD-1	Total/NA	Solid	8260D	594783
240-195282-4	SD-2	Total/NA	Solid	8260D	594783
MB 240-595108/6	Method Blank	Total/NA	Solid	8260D	
LCS 240-595108/4	Lab Control Sample	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 594638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	3546	
240-195282-2	SD-4	Total/NA	Solid	3546	
240-195282-3	SD-1	Total/NA	Solid	3546	
240-195282-4	SD-2	Total/NA	Solid	3546	
MB 240-594638/1-A	Method Blank	Total/NA	Solid	3546	
LCS 240-594638/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 594789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	8270E	594638
240-195282-2	SD-4	Total/NA	Solid	8270E	594638
240-195282-3	SD-1	Total/NA	Solid	8270E	594638
240-195282-4	SD-2	Total/NA	Solid	8270E	594638
MB 240-594638/1-A	Method Blank	Total/NA	Solid	8270E	594638
LCS 240-594638/2-A	Lab Control Sample	Total/NA	Solid	8270E	594638

GC Semi VOA

Prep Batch: 406880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	3546	
240-195282-2	SD-4	Total/NA	Solid	3546	
240-195282-3	SD-1	Total/NA	Solid	3546	
240-195282-4	SD-2	Total/NA	Solid	3546	
MB 310-406880/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-406880/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 406995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	OA-2	406880
240-195282-2	SD-4	Total/NA	Solid	OA-2	406880
240-195282-3	SD-1	Total/NA	Solid	OA-2	406880
240-195282-4	SD-2	Total/NA	Solid	OA-2	406880
MB 310-406880/1-A	Method Blank	Total/NA	Solid	OA-2	406880

GC Semi VOA (Continued)

Analysis Batch: 406995 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-406880/2-A	Lab Control Sample	Total/NA	Solid	OA-2	406880

Metals

Prep Batch: 594406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	3050B	
240-195282-2	SD-4	Total/NA	Solid	3050B	
240-195282-3	SD-1	Total/NA	Solid	3050B	
240-195282-4	SD-2	Total/NA	Solid	3050B	
MB 240-594406/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-594406/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 594408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	7471B	
240-195282-2	SD-4	Total/NA	Solid	7471B	
240-195282-3	SD-1	Total/NA	Solid	7471B	
240-195282-4	SD-2	Total/NA	Solid	7471B	
MB 240-594408/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-594408/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 594529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	7471B	594408
240-195282-2	SD-4	Total/NA	Solid	7471B	594408
240-195282-3	SD-1	Total/NA	Solid	7471B	594408
240-195282-4	SD-2	Total/NA	Solid	7471B	594408
MB 240-594408/1-A	Method Blank	Total/NA	Solid	7471B	594408
LCS 240-594408/2-A	Lab Control Sample	Total/NA	Solid	7471B	594408

Analysis Batch: 594619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	6010D	594406
240-195282-2	SD-4	Total/NA	Solid	6010D	594406
240-195282-3	SD-1	Total/NA	Solid	6010D	594406
240-195282-4	SD-2	Total/NA	Solid	6010D	594406
MB 240-594406/1-A	Method Blank	Total/NA	Solid	6010D	594406
LCS 240-594406/2-A	Lab Control Sample	Total/NA	Solid	6010D	594406

General Chemistry

Analysis Batch: 594376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195282-1	SD-3	Total/NA	Solid	Moisture	
240-195282-2	SD-4	Total/NA	Solid	Moisture	
240-195282-3	SD-1	Total/NA	Solid	Moisture	
240-195282-4	SD-2	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-3
Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SD-3
Date Collected: 11/10/23 13:20
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-1
Matrix: Solid
Percent Solids: 59.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 10:50
Total/NA	Analysis	8260D		1	595108	CS	EET CLE	11/18/23 06:07
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 14:54
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 22:12
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:53
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:18

Client Sample ID: SD-4
Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SD-4
Date Collected: 11/10/23 13:30
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-2
Matrix: Solid
Percent Solids: 50.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 10:50
Total/NA	Analysis	8260D		1	595108	CS	EET CLE	11/18/23 06:32
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 15:18
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 22:27
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 21:57
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:21

Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Client Sample ID: SD-1
Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SD-1
Date Collected: 11/10/23 15:45
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-3
Matrix: Solid
Percent Solids: 51.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 10:50
Total/NA	Analysis	8260D		1	595108	CS	EET CLE	11/18/23 06:56
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 15:41
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 22:42
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 22:02
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:23

Client Sample ID: SD-2
Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	594376	VH6H	EET CLE	11/13/23 10:23

Client Sample ID: SD-2
Date Collected: 11/10/23 16:00
Date Received: 11/11/23 09:50

Lab Sample ID: 240-195282-4
Matrix: Solid
Percent Solids: 56.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			594783	LAM	EET CLE	11/11/23 10:50
Total/NA	Analysis	8260D		1	595108	CS	EET CLE	11/18/23 07:20
Total/NA	Prep	3546			594638	BV1	EET CLE	11/15/23 08:00
Total/NA	Analysis	8270E		1	594789	LKG	EET CLE	11/16/23 16:05
Total/NA	Prep	3546			406880	DZK8	EET CF	11/22/23 08:57
Total/NA	Analysis	OA-2		1	406995	C3AA	EET CF	11/27/23 22:57
Total/NA	Prep	3050B			594406	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	6010D		1	594619	KLC	EET CLE	11/14/23 22:06
Total/NA	Prep	7471B			594408	DEE	EET CLE	11/13/23 15:00
Total/NA	Analysis	7471B		1	594529	DSH	EET CLE	11/14/23 10:25

Laboratory References:
EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: Elkem Carbide site

Job ID: 240-195282-1

Laboratory: Eurofins Cleveland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Iowa	State	421	06-01-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D	5035	Solid	1,2,4-Trichlorobenzene
8260D	5035	Solid	Cyclohexane
8260D	5035	Solid	Methyl acetate
8260D	5035	Solid	Methylcyclohexane
8270E	3546	Solid	Benzaldehyde
8270E	3546	Solid	Caprolactam
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-24
Georgia	State	IA100001 (OR)	09-29-24
Illinois	NELAP	200024	11-30-24
Iowa	State	007	12-01-23
Kansas	NELAP	E-10341	01-31-24
Minnesota	NELAP	019-999-319	12-31-23
Minnesota (Petrofund)	State	3349	01-18-24
North Dakota	State	R-186	09-29-24
Oregon	NELAP	IA100001	09-29-24

Eurofins Cleveland
180 S. Van Buren Avenue
Barberton, OH 44203
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Macy La Masney	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-113665-40373.6
Client Contact: Ms. Emily Fisher	Phone: 816-912-1959	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin:	Page: Page 6 of 6
Company: Tetra Tech EM Inc.	PWSID:			Job #:
Address: 415 Oak Street	Due Date Requested:			
City: Kansas City	TAT Requested (days): STD			
State, Zip: MO, 64106	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1202828			
Email: emily.fisher@tetratech.com	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture - Percent Moisture	6010D - TAL Metals	8270E - TCL SVOCs	8260D - TCL VOCs	7471B - Mercury	OA2 - OA2 Standard List	6010D, 7471B, 8270E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N	N	N		
SD-3	11/10/23	1320	C	Solid			X	X	X	X	X	X			
SD-4		1330		Solid											
SD-1		1545		Solid											
SD-2		1600		Solid											
				Solid											
				Solid											
	mL 11/10/23														

240-195282 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Macy La Masney	11/10/23 1830	Tetratech	[signature]	11-11-23 950	BETTE

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Eurofins – Cleveland Sample Receipt Form/Narrative
Barberton Facility

Login # : 195282

Client Tetra Tech Site Name ____ Cooler unpacked by: Nancy Hayden

Cooler Received on 11-11-23 Opened on 11-11-23

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other ____

Receipt After-hours: Drop-off Date/Time ____ Storage Location ____

Eurofins Cooler # ____ EC Foam Box Client Cooler Box Other ____

Packing material used: Bubble Wrap Foam Plastic Bag None Other ____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN # 21 (CF +2.0 °C) Observed Cooler Temp. 4.6 °C Corrected Cooler Temp. 5.7 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
   -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____ Yes No
17. Was a LL Hg or Me Hg trip blank present? ____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) ____ were received after the recommended holding time had expired.
Sample(s) ____ were received in a broken container.
Sample(s) ____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) ____ were further preserved in the laboratory.
Time preserved: ____ Preservative(s) added/Lot number(s): ____

VOA Sample Preservation - Date/Time VOAs Frozen: 11-11-23 1150

240-195282 Waybill

eurofins

Environment Testing
TestAmerica

Part # 159470-34 MTW EXP 06/24

RT 448 5 12:00 8150 11.11

ST 12

ORIGIN ID:CAKA (330) 966-9677
EMILY FISHER / MACY LA MASNEY
TETRA TECH EM INC.
415 OAK STREET

KANSAS CITY, MO 64106
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 10.00 LB MAN
CAD: 0562065/CAFE3755

TO LANCE HERSHMAN
EUROFINS TESTAMERICA BARBERTON
180 S VAN BUREN

BARBERTON OH 44203
(330) 312-0176
REF: S240-113666

RMA:

FedEx Express

E

FedEx
TRK# 0221 6549 1095 8150

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO CAKA

44203
OH-US CLE

Part # 159287-434 EXP 07/24

eurofins | Environment Testing America

240-195282 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client:	TA Cleveland		
City/State:	CITY	STATE OH	Project:

Receipt Information			
Date/Time Received:	DATE 11/14/23	TIME 855	Received By: SL

Delivery Type: ☐ UPS ☑ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers			
Sample(s) received in Cooler?	☑ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☐ Yes	☑ No	*If yes:* Cooler # _____ of _____
Cooler Custody Seals Present?	☐ Yes	☑ No	*If yes:* Cooler custody seals intact? ☐ Yes ☐ No
Sample Custody Seals Present?	☐ Yes	☑ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☑ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record					
Coolant:	☑ Wet ice	☐ Blue ice	☐ Dry ice	☐ Other:_____	☐ NONE

Thermometer ID: ρ	Correction Factor (°C): 0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): N/A	Corrected Temp (°C): —

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	4oz soil clear	
Uncorrected Temp (°C):	1.9	2.6
Corrected Temp (°C):	1.9	2.6

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins Cleveland
180 S Van Buren Avenue
Barberton, OH 44203
Phone 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Cisneros, Roxanne	Carrier Tracking No(s):	COC No: 240-176595 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: roxanne.cisneros@et.eurofinsus.com	State of Origin: Iowa	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): State - Iowa		Job #: 240-195282-1
Address: 3019 Venture Way, ,	Due Date Requested: 12/5/2023			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Elkem Carbide site	Project #: 24032066			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	OA2/3546_LVI OA2 Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SD-3 (240-195282-1)	11/10/23	13:20 Central		Solid			X	1	
SD-4 (240-195282-2)	11/10/23	13.30 Central		Solid			X	1	
SD-1 (240-195282-3)	11/10/23	15 45 Central		Solid			X	1	
SD-2 (240-195282-4)	11/10/23	16:00 Central		Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11-13-23 10:10	EEN			
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by SC	Date/Time 11/14/23 855	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 240-195282-1

Login Number: 195282
List Number: 2
Creator: Lage, Sydney

List Source: Eurofins Cedar Falls
List Creation: 11/14/23 10:55 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: November 21, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH and Cedar Falls, IA

Data Package or SDG Number: 240-195063-1

Sample Designations/Names (ID):

SB-1(0-3)	SB-1(33-35)	SB-2(0-3)	SB-2(33-35)
SB-2(33-35) DUP	SB-3(0-3)	SB-3(33-35)	SB-4(0-3)
SB-4(33-35)			

Matrices: Solid

Analytical Parameters: Volatile organic compounds (VOCs) by SW-846 method 8260D, semi-volatile organic compounds (SVOCs) by SW-846 method 8270E, extractable petroleum hydrocarbons (EPH) by Iowa DNR method OA-2, total metals by SW-846 method 6010D, and mercury by SW-846 method 7471B

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete and the requested analyses were performed. Custody seals were not present on the sample containers. Results were not qualified.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	The samples were received at the laboratories at less than 6°C. VOC samples SB-1(0-3), SB-1(33-35), and SB-2(33-35) DUP were not frozen within 48 hours of sample collection as required for soil samples preserved in water. The samples were frozen within 96 hours; therefore, results were qualified as estimated (flagged UJ).

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Method and field blank contamination	☑	☐	☐	**MB 240-594331/1-A:** Di-n-butyl phthalate was detected at a concentration between the method detection limit (MDL) and reporting limit (RL). The di-n-butyl phthalate results for samples SB-1(0-3), SB-1(33-35), SB-2(0-3), SB-2(33-35), SB-2(33-35) DUP, and SB-4(33-35) were detected at less than the RL; therefore, results were qualified as nondetect (flagged U) at the RL. The results for samples SB-3(0-3), SB-3(33-35), and SB-4(0-3) were nondetect; therefore, results were not qualified. **MB 310-405656/1A:** Total extractable hydrocarbons were detected at a concentration between the MDL and RL. The results for samples SB-1(0-3), SB-1(33-35), SB-2(33-35), SB-2(33-35) DUP, SB-3(33-35), and SB-4(33-35) were detected at less than the RL; therefore, results were qualified as nondetect (flagged U) at the RL. The results for samples SB-3(0-3) and SB-4(0-3) were greater than the RL but less than 10 times the blank concentration; therefore, results were qualified as estimated, with possible high bias (flagged J+). The result for sample SB-2(0-3) was nondetect; therefore, results were not qualified. Trip blanks were not provided with these samples.
Surrogate spikes	☑	☐	☐	All surrogate recoveries were within the acceptance limits.
Matrix spikes/matrix spike duplicates (MS/MSD)	☑	☐	☐	An MS/MSD pair were analyzed for extractable petroleum hydrocarbons and were within acceptance limits.
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	The LCS recoveries met QC acceptance criteria.
Other: Field duplicate	☑	☐	☐	**SB-2(33-35)/SB-2(33-35) DUP:** The field duplicate pair met QC acceptance criteria.
Summary The data is usable as qualified during data validation.				

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: November 22, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH and Cedar Falls, IA

Data Package or SDG Number: 240-195065-1

Sample Designations/Names (ID):

SB-5(0-3) SB-5(33-35) SB-6(0-3) SB-6(33-35)
SB-7(0-3) SB-7(33-35)

Matrices: Solid

Analytical Parameters: Volatile organic compounds (VOCs) by SW-846 method 8260D, semi-volatile organic compounds (SVOCs) by SW-846 method 8270E, extractable petroleum hydrocarbons (EPH) by Iowa DNR method OA-2, total metals by SW-846 method 6010D, and mercury by SW-846 method 7471B

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete and the requested analyses were performed. Custody seals were not present on the sample containers. Results were not qualified.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	Samples were received at the laboratories at less than 6°C. All holding times were met.
Method and field blank contamination	☑	☐	☐	**MB 240-594331/1-A (1-5):** Di-n-butyl phthalate was detected at a concentration between the method detection limit (MDL) and reporting limit (RL). The di-n-butyl phthalate results for samples SB-5(0-3), SB-5(33-35), SB-6(0-3), SB-6(33-35), and SB-7(0-3) were detected at less than the RL; therefore, results were qualified as nondetect (flagged U) at the RL. **MB 310-405656/1-A:** Total extractable hydrocarbons were detected at a concentration between the MDL and RL. The total extractable hydrocarbon results for samples SB-5(0-3), SB-5(33-35), SB-6(33-35), and SB-7(33-35) were detected at less than the RL; therefore, the results were qualified as nondetect (flagged U) at the RL. The results for sample SB-6(0-3) and SB-7(0-3) were detected at greater than the RL but less than 10 times the blank concentration; therefore, results were qualified as estimated, with possible high bias (flagged J+). Trip blanks were not provided with these samples.

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Surrogate spikes	☑	☐	☐	**SVOCs:** The 2,4,6-tribromophenol surrogate recovery was below the acceptance limit for sample SB-6(33-35). The results for 4-chloro-3-methylphenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 3&4 methylphenol, 2-nitrophenol, 4-nitrophenol, pentachlorophenol, phenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol were nondetect and qualified as estimated (flagged UJ).
Matrix spikes/matrix spike duplicates (MS/MSD)	☑	☐	☐	**SB-7(0-3)** SVOCs: The average MS/MSD percent recovery for dimethyl phthalate was below the acceptance limit. The parent sample result was nondetect; therefore, the result was qualified as estimated (flagged UJ). MS/MSDs were not performed for VOCs, EPH, and metals.
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	The LCS recoveries met QC acceptance criteria.
Other:	☐	☐	☑	
Summary The data is usable as qualified during data validation.				

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: November 30, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH and Cedar Falls, IA

Data Package or SDG Number: 240-195265-1

Sample Designations/Names (ID):

SB-8 (0-3) SB-8 (33-35) SB-9 (0-3) SB-9 (29-32)
SB-10 (0-3) SB-10 (20-23)

Matrices: Solid

Analytical Parameters: Volatile organic compounds (VOCs) by SW-846 method 8260D, semi-volatile organic compounds (SVOCs) by SW-846 method 8270E, extractable petroleum hydrocarbons (EPH) by Iowa DNR method OA-2, total metals by SW-846 method 6010D, and mercury by SW-846 method 7471B

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete and the requested analyses were performed. Custody seals were not present on the sample containers. Results were not qualified.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	The samples were received at the laboratories at less than 6°C. Holding times were met for all samples.
Method and field blank contamination	☑	☐	☐	**MB 240-594638/1-A SVOCs:** Di-n-butyl phthalate was detected at a concentration greater than the method detection limit but less than the reporting limit (RL). The di-n-butyl phthalate results for all samples were qualified as nondetect (flagged U) at the RL.
Surrogate spikes	☑	☐	☐	All surrogate recoveries were within the acceptance limits.
Matrix spikes/matrix spike duplicates (MS/MSD)	☑	☐	☐	**SB-10 (20-23) SVOCs:** The MSD recovery for dimethyl phthalate was below the acceptance limit. The average MS/MSD recovery was within acceptance limits; therefore, results were not qualified. An MS/MSD was not analyzed for VOCs, metals, and mercury.

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	**LCS 240-594945/4 VOCs:** The LCS recoveries for chlorobenzene, chloroform, ethylbenzene, ethylene dibromide, m-xylene & p-xylene, o-xylene, and total xylenes were below the acceptance limit. The results for associated samples SB-8 (0-3), SB-8 (33-35), SB-9 (0-3), SB-9 (29-32), and SB-10 (0-3) were nondetect and qualified as estimated (flagged UJ).
Other:	☐	☐	☑	
Summary The data is usable as qualified during data validation.				

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: November 27, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH

Data Package or SDG Number: 240-195280-1

Sample Designations/Names (ID):

FB-1	FB-2	SW-1	SW-2
SW-3	SW-4		

Matrices: Water

Analytical Parameters: Volatile organic compounds (VOCs) by SW-846 method 8260D, total metals by SW-846 method 6010D, and mercury by SW-846 method 7470A

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete and the requested analyses were performed. Custody seals were not present on the sample containers. Results were not qualified.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	Samples were received at the laboratories at less than 6°C. All holding times were met. The laboratory noted that sample containers for metals analysis were identified as dissolved; however, "not filtered" was hand-written on the container.
Method and field blank contamination	☑	☐	☐	The method blanks were free from contamination. Toluene was detected in field blank samples FB-1 and FB-2 at concentrations between the method detection limit (MDL) and reporting limit (RL). There are no samples in this data package associated with these field blanks.
Surrogate spikes	☑	☐	☐	The surrogate recoveries met all QC acceptance criteria**.**
Matrix spikes/matrix spike duplicates (MS/MSD)	☐	☐	☑	MS/MSDs were not analyzed with these samples.
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	VOCs: The LCS recovery for 1,2,4-trichlorobenzene was above the acceptance limit. The associated sample results were nondetect; therefore, results were not qualified.
Other:	☐	☐	☑	

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Summary The data is usable as reported by the laboratory.				

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: December 1, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH and Cedar Falls, IA

Data Package or SDG Number: 240-195282-1

Sample Designations/Names (ID):

SD-1 SD-2 SD-3 SD-4

Matrices: Solid

Analytical Parameters: Volatile organic compounds (VOCs) by SW-846 method 8260D, semi-volatile organic compounds (SVOCs) by SW-846 method 8270E, extractable petroleum hydrocarbons (EPH) by Iowa DNR method OA-2, total metals by SW-846 method 6010D, and mercury by SW-846 method 7471B

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete and the requested analyses were performed. Custody seals were not present on the sample containers. Results were not qualified.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	The samples were received at the laboratories at less than 6°C. Holding times were met for all samples.
Method and field blank contamination	☑	☐	☐	**MB 240-594638/1-A SVOCs:** Di-n-butyl phthalate was detected at a concentration greater than the method detection limit but less than the reporting limit (RL). The di-n-butyl phthalate results for all samples were qualified as nondetect (flagged U) at the RL. The result for di-n-butyl phthalate in sample SD-1 was further qualified as estimated (flagged UJ) due to low surrogate recovery.

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Surrogate spikes	☑	☐	☐	The terphenyl-d14 surrogate recovery was below the acceptance limit for sample SD-1. The results for acenaphthene, acenaphthylene, acetophenone, anthracene, atrazine, benzaldehyde, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, 1,1'-biphenyl, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, bis(2-chloroisopropyl) ether, bis(2-ethylhexyl)phthalate, 4-bromophenyl phenyl ether, butyl benzyl phthalate, caprolactam, carbazole, 4-chloroaniline, 2-chloronaphthalene, 4-chlorophenyl phenyl ether, chrysene, dibenz(a,h)anthracene, dibenzofuran, 3,3'-dichlorobenzidine, diethyl phthalate, dimethyl phthalate, di-n-butyl phthalate, 2,4-dinitrotoluene, 2,6-dinitrotoluene, di-n-octyl phthalate, fluoranthene, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, indeno(1,2,3-cd)pyrene, isophorone, 2-methylnaphthalene, naphthalene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, nitrobenzene, n-nitrosodi-n-propylamine, n-nitrosodiphenylamine, phenanthrene, and pyrene were qualified as estimated, with possible low bias (flagged UJ/J-).
Matrix spikes/matrix spike duplicates (MS/MSD)	☐	☐	☑	MS/MSDs were not analyzed with these samples.
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	
Other:	☐	☐	☑	
Summary The data is usable as qualified during data validation.				

DATA VERIFICATION REPORT

Prepared by: Ellen McEntee

Date: December 12, 2023

Site Name/Job Number: Elkem Carbide / 103G65210190.16.03

Laboratory: Eurofins – Cleveland, OH

Data Package or SDG Number: 240-195376-1

Sample Designations/Names (ID):

DU-13-1	DU-13-2	DU-13-3	DU-14-1
DU-14-2	DU-14-3	DU-15-1	DU-15-2
DU-15-3	DU-16-1	DU-16-2	DU-16-3
DU-17-1	DU-17-2	DU-17-3	DU-18-1
DU-18-2	DU-18-3	DU-19-1	DU-19-2
DU-19-3	DU-20-1	DU-20-2	DU-20-3
DU-21-1	DU-21-2	DU-21-3	DU-22-1
DU-22-2	DU-22-3	DU-23-1	DU-23-2
DU-23-3			

Matrices: Solid

Analytical Parameters: Semi-volatile organic compounds (SVOCs) by SW-846 method 8270E, total metals by SW-846 method 6010D, and mercury by SW-846 method 7471B

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Chain of custody	☑	☐	☐	The chain of custody form was complete with the following exceptions. Custody seals were not present on the sample containers. Results were not qualified. In addition, sample DU-14-3 was received with a broken lid, only a 4-ounce (oz) container was received for sample DU-23-2, and 4 oz and 16 oz containers were received for sample DU-23-3.
Data package completeness	☑	☐	☐	All appropriate elements are included.
Sample preservation, storage, and holding times	☑	☐	☐	The samples were received at the laboratories at greater than 6°C. All semivolatile organic and mercury results were qualified as estimated (flagged J/UJ). In addition, samples DU-15-3, DU-23-1, DU-23-2, and DU-23-3 for SVOC analysis were re-extracted beyond the holding time due to surrogate failures. The original results were accepted for samples DU-15-3 and DU-23-2 during this validation effort; therefore, the SVOC results were not qualified due to the holding time exceedance. The re-extracted results were accepted for samples DU-23-1 and DU-23-3; therefore, the results for all SVOC analytes for these samples were qualified as estimated, with possible low bias (flagged J-/UJ).

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Method and field blank contamination	☑	☐	☐	**MB 240-596840/1-A:** Di-n-butyl phthalate was detected at a concentration greater than the method detection limit (MDL) but less than the reporting limit (RL). This blank was associated with the reanalysis of sample DU-15-3 and results of the original analysis were accepted during this validation effort; therefore, data were not qualified. **MB 240-595402/1-A**: Silver was detected at a concentration greater than the MDL but less than the RL. The silver result for samples DU-13-1, DU-14-1, DU-15-1, DU-15-2, and DU-15-3 were greater than the MDL but less than the RL and were qualified as nondetect (flagged U) at the RL. All other silver results were nondetect and were not qualified. **MB 240-595416/1-A (21-27):** Aluminum was detected at a concentration greater than the MDL but less than the RL. The aluminum results for the associated samples were greater than ten times the blank concentration and were not qualified.

Surrogate spikes	☑	☐	☐	The 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, and terphenyl-d14 recoveries were below the lower acceptance limit for the original analysis of sample DU-15-3. The sample was re-extracted beyond the holding time and the recovery for terphenyl-d14 was below the acceptance limit. The results for the original analysis were accepted during this validation effort and all results for sample DU-15-3 were qualified as estimated, with possible low bias (flagged J-/UJ). The recoveries for all surrogates were below the lower acceptance limit for the original analysis of sample DU-23-1. The sample was re-extracted beyond the holding time and the recoveries for all surrogates were within the QC limits. The results from the re-extraction were accepted during this validation effort; therefore, results were not qualified due to surrogate recoveries. The 2-fluorobiphenyl, nitrobenzene-d5, phenol-d5, and terphenyl-d14 recoveries were below the lower acceptance limit for the original analysis of sample DU-23-2. The sample was re-extracted beyond the holding time and terphenyl-d14 was below the lower acceptance limit. The results for the original analysis were accepted during this validation effort and results for all analytes were qualified as estimated, with possible low bias (flagged J-/UJ). The 2-fluorobiphenyl and terphenyl-d14 recoveries were below the lower acceptance limit in the original analysis of sample DU-23-3. The sample was re-extracted beyond the holding time and all surrogates were within the acceptance limit. Results from the re-extraction were accepted during this validation effort; therefore, results were not qualified due to surrogate recoveries. The terphenyl-d14 recoveries were below the acceptance limit for samples DU-16-1, DU-16-2, DU-16-3, DU-17-1, DU-21-2, DU-22-1, DU-22-2, and DU-22-3. Base/neutral analytes acenaphthene, acenaphthylene, acetophenone, anthracene, atrazine, benzaldehyde, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, 1,1'-biphenyl, bis(2-chloroethoxy)methane, bis(2-chloroethyl)ether, bis(2-chloroisopropyl)ether, bis(2-ethylhexyl)phthalate, 4-bromophenyl phenyl ether, butyl benzyl phthalate, caprolactam, carbazole, 4-chloroaniline, 2-chloronaphthalene, 4-chlorophenyl phenyl ether, chrysene, dibenz(a,h)anthracene, dibenzofuran, 3,3'-dichlorobenzidine, diethyl phthalate, dimethyl phthalate, di-n-butyl phthalate, 2,4-dinitrotoluene, 2,6-dinitrotoluene, di-n-octyl phthalate, fluoranthene, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane,

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
				indeno(1,2,3-cd)pyrene, isophorone, 2-methylnaphthalene, naphthalene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, nitrobenzene, n-nitrosodi-n-propylamine, n-nitrosodiphenylamine, phenanthrene, and pyrene for these samples were qualified as estimated, with possible low bias (flagged J-/UJ).
Matrix spikes/matrix spike duplicates (MS/MSD)	☑	☐	☐	**DU-14-2** Metals: The average MS/MSD recovery was below the acceptance limit for antimony. The parent sample result was qualified as estimated, with possible low bias (flagged J-). The average MS/MSD recoveries were outside the acceptance limits for aluminum, iron, and manganese; however, the parent sample concentration was greater than four times the spike concentration. Results were not qualified. **DU-19-3** Metals: The average MS/MSD recovery was below the acceptance limit for antimony. The parent sample result was qualified as estimated, with possible low bias (flagged J-). The average MS/MSD recoveries were outside the acceptance limits for aluminum, iron, and manganese; however, the parent sample concentration was greater than four times the spike concentration. Results were not qualified. **DU-22-2** Metals: The average MS/MSD recovery was below the acceptance limit for antimony. The parent sample result was qualified as estimated (flagged UJ). The MS recovery for barium was below the acceptance limit, the MSD recovery was above the acceptance limit, and the relative percent difference was outside the acceptance limit. The parent sample result was qualified as estimated (flagged J). The average MS/MSD recovery was above the acceptance limit and the RPD was outside the acceptance limit for mercury. The parent sample result was qualified as estimated, with possible high bias (flagged J+). The average MS/MSD recoveries were outside the acceptance limits for aluminum, calcium, iron, lead, manganese, and zinc; however, the parent sample concentration was greater than four times the spike concentration. Results were not qualified. MS/MSDs were not analyzed for the SVOC analyses.
Laboratory control samples/Laboratory control sample duplicates (LCS/LCSD)	☑	☐	☐	The LCS recoveries met QC acceptance criteria.

Data Package Element	Usable	Rejected	NA	Description of Affected Data (note specific samples and analytical parameters affected)
Other: Re-extraction/reanalysis	☑	☐	☐	Samples DU-15-3, DU-23-1, DU-23-2, and DU-23-3 were re-extracted and reanalyzed beyond the holding time due to surrogate failures in the original analysis. The original results were accepted for samples DU-15-3 and DU-23-2 and the re-extracted/reanalysis results were accepted for samples DU-23-1 and DU-23-3. Results for these samples were qualified as summarized above.
Summary The data is usable as qualified during data validation.				