

# Geotechnical Subsurface Investigation

PREPARED FOR

City of Conneaut

294 Main Street, Conneaut, Ohio 44030

ISSUED: April 3, 2025



April 3, 2025

CT Project No. 241249

Mr. Nicholas Sanford  
Conneaut City Manager  
294 Main Street  
Conneaut, Ohio 44030

**Geotechnical Subsurface Investigation  
Proposed Clark Street Water Tower Replacement  
513 Clark Street  
Conneaut, Ohio**

Dear Mr. Sanford:

Following is the report of the geotechnical subsurface investigation performed by CT Consultants, Inc. (CT) for the referenced project. This study was performed in general accordance with Work Authorization by the Conneaut City Manager dated November 15, 2023.

This report contains the results of our study, our engineering interpretation of the results with respect to the project characteristics, and our engineering design recommendations for the foundations of proposed water tower structure.

Soil samples collected during this investigation will be stored at our laboratory for 90 days from the date of this report. The samples will be discarded after this time unless you request that they be saved or delivered to you.

Should you have any questions regarding this report or require additional information, please contact our office.

Sincerely,

**CT CONSULTANTS, Inc.**

Imad El Hajjar, EI  
Project Manager

Curtis E. Roupe, P.E.  
Associate Vice President, Group Leader

H:\2024\241249\PHASE\02 Geotech\Reports and Other Deliverables\241249 Water Tower Replacement at Clark Street Conneaut.doc

**GEOTECHNICAL SUBSURFACE INVESTIGATION  
PROPOSED CLARK STREET WATER TOWER REPLACEMENT  
513 CLARK STREET  
CONNEAUT, OHIO**

**FOR**

**THE CITY OF CONNEAUT  
294 MAIN STREET  
CONNEAUT, OHIO 44030  
SUBMITTED**

**APRIL 3, 2025**

**CT CONSULTANTS, INC. A VERDANTAS COMPANY  
8150 STERLING COURT  
MENTOR, OHIO 44060  
(440) 951-9000  
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## 1.0 INTRODUCTION

This geotechnical subsurface investigation report has been prepared for the proposed Clark Street Water Tower Replacement Project located at 513 Clark Street Conneaut, Ohio.

This report summarizes our understanding of the proposed construction, describes the investigative and testing procedures, presents the findings, discusses our evaluations and conclusions, and provides our engineering design recommendations for the foundations of proposed water tower. The recommendations herein are subject to additional geotechnical subsurface investigation for final design.

This study was performed in general accordance with the Work Authorization by the Conneaut City Manager dated November 15, 2023. The purpose of this investigation was to evaluate the subsurface conditions and laboratory data relative to the engineering design of the suitable foundation at the referenced site. This investigation included three (3) test borings, field and laboratory soil testing, and a geotechnical engineering evaluation of the test results.

This report includes:

- A description of the subsurface soil and groundwater conditions encountered in the borings.
- Design recommendations for water tower structure foundation.
- Recommendations concerning soil and groundwater related construction procedures such as site preparation, earthwork, foundation, and related field testing.

The scope of this study did not include an environmental assessment of the surface or subsurface materials at this site.

## 2.0 INVESTIGATIVE PROCEDURES

This subsurface investigation included three (3) test borings, designated as Borings B-1 through B-3, performed by Ohio TestBor, Inc. Drilling under CT’s direction during the period from July 25 through July 26, 2024. Test boring locations were located in the field utilizing a handheld GPS device, based on a client-provided proposed site location plan. The approximate locations of the borings are shown on the Test Boring Location Plan (Plate 2.0).

The test borings were performed in general accordance with geotechnical investigative procedures outlined in Standard D 1586, ASTM D 1452, or ASTM D 6151. The test borings performed during this investigation were drilled with a B-57ATV-mounted drilling rig utilizing 3¼-inch inside diameter hollow-stem augers. The depths of the borings can be seen in Table 2.0.

<b>Table 2.0 Test Boring Data</b>			
<b>Boring Number</b>	<b>Ground Surface Elevation (ft)</b>	<b>Termination Depth (ft)</b>	<b>Approximate Termination Elevation (ft)</b>
B-1	646	50	596
B-2	646	35	611
B-3	646	35	611

During auger advancement, soil samples were collected at 2½-foot intervals to a depth of 10 feet and at 5-foot intervals thereafter. Split-spoon (SS) samples were obtained by the Standard Penetration Test (SPT) Method (ASTM D 1586), which consists of driving a 2-inch outside diameter split-barrel sampler into the soil with a 140-pound weight falling freely through a distance of 30 inches. The sampler was driven in three successive 6-inch increments with the number of blows per increment being recorded. The sum of the number of blows required to advance the sampler the second and third 6-inch increments is termed the Standard Penetration Resistance (N-value) and is presented on the Logs of Test Borings attached to this report. The samples were sealed in jars and transported to our laboratory for further classification and testing.

Soil conditions encountered in the test borings are presented in the Logs of Test Borings, along with information related to sample data, SPT results, water conditions observed in the borings, and laboratory test data. It should be noted that these logs have been prepared on the basis of laboratory classification and testing as well as field logs of the encountered soils.

All samples of the subsoils were visually or manually classified using the Unified Soil Classification System (ASTM D 2487 and D 2488) and were tested in our laboratory for moisture content (ASTM D 2216). Dry density determinations and unconfined compressive strength tests (ASTM D 2166) were performed on a selected intact cohesive sample. Unconfined compressive strength estimates were

obtained for the remaining intact cohesive samples using a calibrated hand penetrometer. Atterberg limits tests (ASTM D 4318) and particle size analyses (ASTM D 422) were performed on a selected sample from each boring, to determine soil classification and index properties. These test results are presented on the Logs of Test Borings, Tabulation of Test Data sheets, and the Grain Size Distribution sheets attached to this report.

Experience indicates that the actual subsoil conditions at a site could vary from those generalized on the basis of test borings made at specific locations. Therefore, it is essential that a geotechnical engineer be retained to provide soil engineering services during the site preparation, excavation, and foundation phases of the proposed project. This is to observe compliance with the design concepts, specifications, and recommendations, and to allow design changes in the event subsurface conditions differ from those anticipated prior to the start of construction.

### **3.0 PROPOSED CONSTRUCTION**

We understand the proposed project involves construction of 500,000 gallon water tank that will replace the existing water tower at 513 Clark Street, Conneaut, Ohio. The proposed tower would be 148 feet tall from the ground.

The purpose of this investigation was to evaluate the subsurface conditions and laboratory data relative to the engineering design for the foundation at the referenced site. The pedestal diameter was indicated to be 52 feet. The total permanent load is estimated to be 4,600 kips. It is anticipated that the structure will be supported by a ring wall.

We have assumed that the final grades at the site will approximate existing grades.

## 4.0 GENERAL SITE AND SUBSURFACE CONDITIONS

### 4.1 General Site Conditions

At the time of investigation, the site comprised of 30,000 square feet (approx.) gravel pad surrounded by Clark Street in North, 5,000 square feet (approx.) storage facility in East, railway-tracks in South, and a water tower in West. The ground surface elevations at the boring locations were 647 feet based on the Google Earth Imagery.

During the boring activity, no topsoil was encountered. However, about 1.5- to 2.5-feet of crushed stone layer was recorded during the drilling below the exiting grade.

### 4.2 General Site Geology

Published geologic maps from the Ohio Department of Natural Resources (ODNR) indicate that the project site is located within the glaciated portion of Ohio and covered with late Wisconsinan water deposits of lacustrine silt underlain by Devonian Ohio Shale. The lacustrine clay soils were deposited in calm water of glacial lakes, mostly laminated and covered in places with thin organic deposits.

Bedrock at the site consists of the Upper Devonian Shale of the Ohio Shale Formation. This group also includes interbedded layers of siltstone, and very fine-grained sandstone, which is anticipated at depths greater than 150 feet below existing grades. The site intercepts bedrock topographic contour of Elev. 600 feet which is anticipated at 46 feet (approx.) below existing grades.

### 4.3 General Soil Conditions

Based on the findings of our field and laboratory tests, the subsoils encountered can be generally described as four (4) strata with varying strength and moisture characteristics.

**Stratum I** consisted of predominantly stiff with region of medium stiff cohesive soils encountered in all borings. Stratum I extended to depths ranging from 5 to 6.5 feet (Elevation 639.5± to 641±). Stratum I consisted of Silty Clay (CL-ML) mixed with sand. SPT N-values generally ranged from 5 to 10 blows per foot (bpf). Unconfined compressive strengths ranged from 1,500 to 4,250 psf. Moisture contents ranged from 19 to 21 percent. These values, along with gradation results, are indicative of Silty Clay (CL-ML) as classified in accordance with the Unified Soil Classification System (USCS).

**Stratum II** consisted of predominantly very stiff to hard cohesive soils in all borings. The SPT N-Values ranged from 16 to 31 bps. Stratum II extended to depths ranging from 18.5 to 22 feet (Elevation 624± to 627.5±). Stratum II consisted of sandy silt (ML). Unconfined compressive strengths ranged from 1,500 to 4,000 psf. The moisture contents ranged from 19 to 26 percent.

**Stratum III** consisted of predominantly medium stiff to stiff cohesive soils encountered in all borings. Stratum III extended to depths ranging from 32.5 to 33 feet (Elevation 613± to 613.5±). Stratum III consisted of lean clay (CL) mixed with sand. Trace amounts of gravel was encountered at 26 feet bgs (Elev. 620±) in Boring B-2. SPT N-values generally ranged from 5 to 11 bpf. Unconfined compressive strengths ranged from 1,300 to 2,400 psf. The moisture content ranged from 21 to 27 percent. These values, along with gradation results, are indicative of Sandy Lean clay (CL) as classified in accordance with the Unified Soil Classification System (USCS).

**Stratum IV** consisted of predominantly very stiff to hard cohesive soils encountered in all borings. Stratum IV extended to end of borings i.e. depths ranging from 35 to 50 feet (Elevation 611± to 596±). Stratum IV consisted of sandy silt (ML) mixed with sand and shale fragments and gravels. SPT N-values generally ranged from 26 to 49 bpf. Unconfined compressive strengths ranged from 3,000 to 6,000 psf. The moisture contents ranged from 9 to 14 percent.

Additional descriptions of the stratigraphy encountered in the borings are presented on the Logs of Test Borings attached as Appendix A.

#### **4.4 Groundwater Conditions**

Groundwater was noted during drilling in B-1 and B-3 at depths of 22 feet to 13 feet bgs (Elevations 624± to 633±) respectively. Upon completion of drilling, groundwater table depth of 12 ft bgs (Elevation 634±) was recorded only in B-3. No groundwater during or upon completion of boring was recorded in B-1 and B-2. It should be noted that each boring was drilled and backfilled within the same day and instrumentation was not installed to observe long-term groundwater levels. As such, stabilized water levels may not have occurred in the predominately clayey subsurface profile over this limited time period.

Based on the limited data available, such as the soil characteristics and the moisture conditions encountered in the borings, it is our opinion that the “normal” groundwater level may be generally encountered at the water elevation in Lake Erie in remaining borings. Based on Google Earth Imagery Data, the water level within Lake Erie at approximately Elev. 568 feet which is roughly 78 feet bgs. However, this investigation did not include research of possible hydrological influences at the project site. It should be noted that groundwater elevations can fluctuate with seasonal and climatic influences. In particular, “perched” water may be encountered in the surface crushed stone layer that is underlain by relatively impermeable cohesive soils. Therefore, the groundwater conditions may vary at different times of the year from those encountered during this investigation.

## 5.0 DESIGN RECOMMENDATIONS

The following conclusions and recommendations are based on the data obtained during the field investigation and our understanding of the proposed construction. These recommendations are subject to additional geotechnical exploration and analysis for final design and are also contingent on satisfactory completion of the recommended site and subgrade preparation and fill placement operations described in Section 6.0, “ Construction Recommendations.”

### 5.1 Shallow Foundations

It was indicated that the proposed elevated water tank will be supported on a ringwall and would have a load that would result in a bearing pressure on the order of 4,600 pounds per square foot (psf) over the foundation footprint. The foundation will be constructed to support the proposed water tank with an expected diameter on the order of 52 feet.

Based on the results of the field and laboratory testing for the borings performed for this investigation, we recommend two cases:

Table 3.0 Shallow Foundations Recommendation					
Cases	Strata	Bearing Depth below Ground Surface (ft)	Bearing Capacity (psf)	Total Settlement (inches)	Differential Settlement (inches)
I	Stratum I, Stiff with regions of Medium Stiff Cohesive Soils	3.5	3,000	1 to 1.5	1±
II	Stratum II, Stiff to Very Stiff Cohesive Soils	6	5,000	1.5 to 2	1±

These stiff to very stiff soils are considered generally suitable for support of the proposed foundations. In any case, an inspection of the footings should be completed prior to placement of steel reinforcement or foundation concrete.

It should be noted that medium stiff cohesive lacustrine soils were present in a few regions overlying Stratum II in all the borings and extending to depths ranging from 3½ feet below existing grade. These medium stiff cohesive soils are not considered suitable for support of the foundations based on the

anticipated bearing pressures associated with the elevated tank foundation. If these soils are present within a depth below the foundation bearing elevation equal to the foundation width, they should be removed and replaced with new engineered fill as described later in this section.

Following the satisfactory completion of the site preparation and footing excavation inspections outlined in Section 6.0 of this report, the proposed structure may be supported on a ringwall foundation. It should be noted that bearing capacity and associated settlement is affected by the foundation width since it affects the stress influence from the foundation pressure on the underlying soils. Our evaluations are based on a ringwall with a width of 10 feet or less. Please contact CT for additional evaluation if the foundation width is greater than 10 feet.

We strongly recommend that the bearing surface at the bottom of all footing excavations be inspected during construction by a CT geotechnical engineer or qualified representative. Inspection should be performed to verify that the exposed soil conditions at the bearing elevations are consistent with the subsurface conditions encountered in the test borings and are suitable for foundation bearing. Inspection should include test holes at regular intervals as described above. Additionally, the presence of our engineer will help facilitate the timely remediation of unsuitable soil conditions. Suitable unconfined compressive strength of the bearing soils may be verified using a hand penetrometer.

If the results of hand penetrometer or other strength tests indicate the exposed soil conditions are not suitable for the design bearing pressure, it will be necessary to over-excavate the unsuitable soils. The base of the over-excavation should be widened one foot for every foot of depth and centered along the footing. The over-excavated areas should be backfilled with dense-graded aggregate, placed in controlled lifts, and compacted to not less than 100 percent of the maximum dry density as determined by ASTM D 698 (Standard Proctor). Alternatively, the over-excavated areas could be backfilled with lean concrete having a minimum compressive strength of 1,500 pounds per square inch (psi) or other flowable controlled-density fill having a minimum compressive strength of 300 psi.

The footing should be constructed at a minimum frost penetration depth of 3½ feet below finished exterior grades. Although much wider foundations are anticipated, based on the relatively high recommended allowable bearing pressure, the minimum width of ringwall footings should be at least 4 feet, regardless of sizing based on design loads and the allowable bearing pressure, to avoid punching or localized shear failure.

A wider foundation may be required to account for shear and moment in the foundation system. Additionally, moments in the foundation system may create an unbalanced foundation bearing pressure. If accentuated “toe” pressures due to overturning conditions exceed 3,990 for Case I or 6,650 for Case II psf, CT should review the bearing pressure in light of settlement considerations. Typically, these higher pressures are associated with wind loads or seismic loads, for which an increase of one-third of the

“normal/average” bearing pressure is allowed for these transient loads (i.e., a maximum allowable pressure of 3,990 for Case I or 6,650 for Case II psf may be used for transient loading). However, the average bearing pressure over the whole footing width should not exceed the net allowable bearing pressure of 3,000 for Case I and 5,000 for Case II psf. This allowable bearing pressure is based on a nominal factor of safety of 3 applied to the calculated ultimate value.

Utilizing the above bearing pressure and proper foundation inspection techniques, the total settlement associated with the structure with a foundation was calculated to be on the order of 1 to 1.5 for Case I and 1.5 to 2 for Case II inches using a ringwall foundation and differential settlement should not exceed 1 inch.

For sliding resistance, a friction factor of 0.35 may be assumed for a footing poured against undisturbed native clay soils. For undisturbed native cohesive soils, a passive earth pressure coefficient ( $k_p$ ) of 3.0 may be utilized for the portion of the footing that is below a frost protection depth of 3½ feet. These values are based on footings poured in intimate contact with at least medium stiff lean clay. It should be noted that a slight amount of soil strain and possibly accompanying wall/foundation movement is needed to mobilize the full passive pressure of the soil. Because of this consideration, some design methods incorporate a higher factor of safety (e.g., F. S. = 2.0) when using passive pressure contribution to stability, as compared to sliding resistance on the base only (typically, F.S. = 1.5).

### 5.2 Seismic Considerations

We have reviewed seismic design parameters in accordance with the Ohio Building Code (OBC) criteria, which references ASCE 7-10. It should be noted that the OBC seismic site characterization is based on the upper 100 feet of the geologic profile and the borings performed for this investigation extended only to a maximum depth of 50 feet below existing grade. Based on review of available information, bedrock in the vicinity of the site is mapped deeper than 100 feet below existing grade. Therefore, we considered the soil conditions at the termination depth of the borings extending to 100 feet.

For the  $N_{ch}$ -method an SPT N-value of 100 blows per foot (bpf) [split-spoon refusal] was modeled for the bedrock portion of the subsurface profile. Using the  $N_{ch}$ -method, the average SPT N-value ( $N_{ch}$ ) was calculated to be greater than 15 bpf and less than 50 bpf, which is indicative of a Site Class D “stiff soil” designation in accordance with ASCE 7-10 criteria. As such, a Site Class D “stiff soil” designation may be utilized for this site.

### 5.3 Groundwater Control and Drainage

Encountered groundwater conditions were previously discussed in Section 4.3. Based on the limited data available, such as the soil characteristics and the moisture conditions encountered in the borings, it is our opinion that the “normal” groundwater level may be encountered at depths on the order of 12 to 13 feet

below existing grade. It should be noted that “perched” water may be encountered in existing stone subbase materials that are underlain by relatively impermeable native cohesive soils.

It is our experience that adequate control of groundwater seepage, “perched” water, or surface water runoff into shallow excavations should be achievable by minor dewatering systems, such as pumping from prepared sumps. In the event excessive seepage is encountered during construction, CT may be notified to evaluate whether other dewatering methods are required.

### 5.4 Excavations and Slopes

The sides of temporary excavations for building foundations, utility installations, and other construction should be adequately sloped to provide stable sides and safe working conditions. Otherwise, the excavation must be properly braced against lateral movements. In any case, applicable Occupational Safety and Health Administration (OSHA) safety standards must be followed.

Based on the test borings, it is likely that excavations will encounter a range of soil conditions that include the following OSHA designations:

- Type A soils (cohesive soils with unconfined compressive strengths of 3,000 pounds per square foot (psf) or greater),
- Type B soils (cohesive soils with unconfined compressive strengths greater than 1,000 psf but less than 3,000 psf, and dry rock that is not stable), and
- OSHA Type C soils (cohesive soils with unconfined compressive strengths of 1,000 psf or less).

For temporary excavations in Type A, B and C soils, side slopes must be no steeper than  $\frac{3}{4}$  horizontal to 1 vertical ( $\frac{3}{4}$ H:1V), 1H:1V, and 1½H:1V, respectively. For situations where a higher strength soil is underlain by a lower strength soil and the excavation extends into the lower strength soil, the slope of the entire excavation is governed by that required for the lower strength soil. In all cases, flatter slopes may be required if lower strength soils or adverse seepage conditions are encountered during construction. For permanent excavations and slopes, we recommend that grades be no steeper than 3H:1V without a more extensive geotechnical evaluation of the proposed construction plans and site conditions.

## 6.0 CONSTRUCTION RECOMMENDATIONS

### 6.1 Site and Subgrade Preparation

Prior to proceeding with construction operations, all structures, pavements, existing stockpiles, vegetation, topsoil, root mat, and other deleterious non-soil materials should be removed from the proposed construction areas. Suitable topsoil may be stockpiled for later use in landscaped areas. Topsoil thicknesses may vary across the site, and from the thickness indicated at the boring locations. Due to the agricultural use for much of the site, topsoil thickness may be greater in some areas of the site than what was encountered in the borings.

Dark soils having the appearance of topsoil but exhibiting only root “hairs” or trace organics less than approximately five percent, may not require stripping for the full depth of the darkly colored zone, provided the subgrade can be satisfactorily proof rolled as described below. The actual amount of required stripping should be determined in the field by a geotechnical engineer or qualified representative.

Upon completion of stripping and clearing, the areas intended to support floor slabs, pavements, and new fill should be carefully inspected by a geotechnical engineer. At that time, the engineer should observe proof rolling of the cohesive subgrade soils using a minimum 20-ton loaded truck or other pneumatic-tired vehicle of similar size and weight. The truck should make a minimum of two passes covering the proposed development area, with additional passes as necessary to achieve required compaction and/or subgrade stabilization.

The purpose of the proof-rolling operations for the cohesive soils is to locate any soft or excessively wet soils present at the time of construction. Any unsuitable materials observed during the inspection and proof-rolling operations should be undercut and replaced with compacted fill or stabilized in place utilizing conventional remedial measures such as discing, aeration, and recompaction. Once the site has been proof rolled, inspected, and stabilized, the proof-rolled or inspected subgrades should not be exposed to wet conditions. It should be recognized that during periods of wet weather, the silty and clayey soils that will be exposed at design subgrades will tend to pond water for short periods of time, with the potential to deteriorate the prepared subgrade.

The results of the inspection and proof-rolling operations will be partially dependent on construction operations, the moisture content of the soil, and the weather conditions prevalent at the time. If pumping or rutting is encountered and difficulty is experienced in the operation of construction equipment, CT should be notified in order to determine which method of subgrade modification may be best suited for the conditions encountered. Should such conditions be experienced, we may recommend that a small test area be used to determine the necessary depth of undercutting and stone replacement or other remedial action necessary to achieve a stable subgrade condition.

## 6.2 Fill

Material for engineered fill or backfill required to achieve design grades may consist of any non-organic soils having a maximum dry density as determined by the Standard Proctor (ASTM D 698) greater than 90 pounds per cubic foot (pcf) and exhibiting a liquid limit of less than 50 percent. On-site soils may be used as engineered fill materials provided that they are free of organic matter, high concentration of gypsum, debris, excessive moisture, and rock or stone fragments larger than 3 inches in diameter, and exhibit a liquid limit of less than 50 percent. Depending on seasonal conditions, the on-site soils may be wet of optimum. The soils could require scarification and aeration to achieve satisfactory compaction. If the construction schedule does not allow for scarification and aeration activities, it may be more practical or economical to utilize imported granular fill.

Fill should be placed in uniform layers no more than 8 inches thick (loose measure) and adequately keyed into stripped and scarified soils. All fill within the building areas and pavement subgrades should be compacted to not less than 100 percent of the maximum dry density as determined by ASTM D 698 (Standard Proctor).

Based on the investigation borings, the upper soil profile at the site consists of native cohesive soils. The contractor should be prepared to use a sheepsfoot roller to provide effective compaction of the cohesive soils. For new granular engineered fill, compaction of these materials should be performed using a vibratory, smooth-drum roller. In narrow utility or footing excavations, the on-site cohesive soils may be difficult to compact; therefore, a clean granular material may be required in these areas.

Scarified subgrade soils and all fill material should be within 3 percent of the optimum moisture content to facilitate compaction. Furthermore, fill material should not be frozen or placed on a frozen base. It is recommended that all earthwork and site preparation activities be conducted under adequate specifications and properly monitored in the field by a qualified geotechnical testing firm.

## 6.3 Foundation Excavations

As mentioned in Sections 5.1, foundation excavations should have a detailed inspection performed for each foundation. A geotechnical engineer or qualified representative should perform these inspections to verify that the exposed materials are similar to those encountered in the borings and are suitable for foundation bearing and/or new engineered fill has been properly placed and compacted.

We recommend that the foundation excavations be concreted as soon as practical after they are excavated and that water not be allowed to pond in any excavation. If it is necessary to leave the bearing surface open for any extended period of time, we recommend that a thin mat of lean concrete be placed over the bottom of the excavation to reduce damage to the surface from weather or construction. Foundation concrete should not be placed on frozen or saturated subgrade.

## 7.0 QUALIFICATION OF PRELIMINARY RECOMMENDATIONS

Our preliminary evaluation of foundation design and construction conditions has been based on our understanding of the site and project information and the data obtained during our field investigation. The general subsurface conditions were based on interpretation of the subsurface data at specific boring locations. When the final structure locations become available, additional geotechnical exploration in the area of the proposed development should be performed. The findings of such an investigation will be presented in a supplemental report. Based on the results of final design investigation, the preliminary recommendations of this report will be reviewed and modified, as necessary.

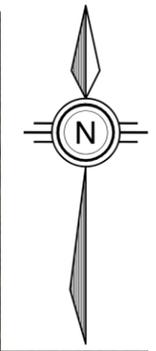
Regardless of the thoroughness of a subsurface investigation, there is the possibility that conditions between borings will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, experienced geotechnical engineers should observe earthwork and foundation construction to confirm that the conditions anticipated in design are noted. Otherwise, CT assumes no responsibility for construction compliance with the design concepts, specifications, or recommendations.

The nature and extent of variations between the borings may not become evident until the course of construction. If such variations are encountered, it will be necessary to reevaluate the recommendations of this report and the final geotechnical subsurface investigation report after on-site observations of the conditions.

Our professional services have been performed, our findings derived, and our preliminary recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. CT is not responsible for the conclusions, opinions, or recommendations of others based on this data.

## **PLATES**

<b>PLATE 1.0</b>	<b>SITE LOCATION MAP</b>
<b>PLATE 2.0</b>	<b>TEST BORING LOCAITON PLAN</b>

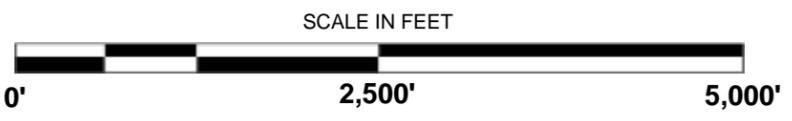


**Approximate Site Location**

**SITE LOCATION MAP**  
CLARK STREET WATER TOWER  
CONNEAUT, OHIO

PREPARED FOR  
**CITY OF CONNEAUT**  
CONNEAUT, OHIO

DRAWN: CRO / 10/17/24  
REVISED: ---  
PROJECT No: 241249



**PLATE 1.0**

BASE PLAN "SITE AERIAL PLAN" DATED 11/6/2021 OBTAINED FROM GOOGLE EARTH.

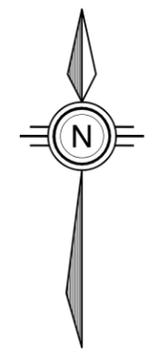


CLARK ST

B-2

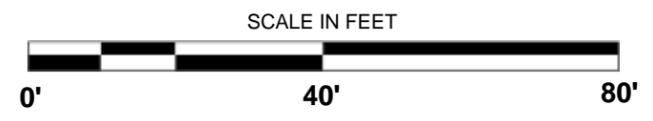
B-1

B-3



**LEGEND:**

- 
**B-1**  
 APPROXIMATE TEST BORING LOCATION
- 
 APPROXIMATE WATER TOWER LOCATION



**TEST BORING LOCATION PLAN**  
 CLARK STREET WATER TOWER  
 CONNEAUT, OHIO

PREPARED FOR  
**CITY OF CONNEAUT**  
 CONNEAUT, OHIO

DRAWN: CRO / 10/17/24  
 REVISED: ---  
 PROJECT No: 241249



**PLATE 2.0**

BASE PLAN "SITE AERIAL PLAN" DATED 11/06/2021 OBTAINED FROM GOOGLE EARTH.

**APPENDIX A**

**LOGS OF TEST BORINGS**



CT Consultants, Inc.  
 1915 N 12th Street  
 Toledo Ohio 43604  
 Telephone: (419)324-2222

# BORING NUMBER B-1

PAGE 1 OF 2

**CLIENT** City of Conneaut **PROJECT NAME** Proposed Clark Street Water Tower

**PROJECT NUMBER** 241249 **PROJECT LOCATION** Conneaut, OH

**DRILLING CONTRACTOR** Ohio TestBor, Inc. Don Jim **RIG NO.** B-57 ATV **GROUND ELEVATION** 646 ft

**DRILLING METHOD** HSA **GROUND WATER LEVELS:**

**DATE STARTED** 7/25/24 **COMPLETED** 7/25/24 **▽ AT TIME OF DRILLING** 22.0 ft / Elev 624.0 ft

**LOGGED BY** KKC **CHECKED BY** MSI **AT END OF DRILLING** None

**NOTES** \_\_\_\_\_ **0hrs AFTER DRILLING** Backfilled w/Cuttings

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	SPT N VALUE ▲			
									PL	MC	LL	
645	0		CRUSHED STONE w/Topsoil - 18 Inches						20	40	60	80
	1.5'		Moist Medium Stiff Gray/Brown SILTY CLAY w/Sand (CL-ML)	SS 1	100	2-3-2 (5)	NP		▲	●		
	3.5'		Moist Stiff Brown SILTY CLAY w/Sand (CL-ML)	SS 2	100	2-4-6 (10)	1.59	111	▲	●		
	6.4'		@6': Very Stiff, Gray/Brown, w/Trace Gravel Moist Very Stiff Gray SANDY SILT (ML)	SS 3	100	8-12-11 (23)	3.00		●	▲		
				SS 4	100	9-9-11 (20)	2.00		●			
				SS 5	100	6-10-8 (18)	2.50		▲	●		
	18.5'		Moist Very Stiff Gray SILT w/Trace Sand (ML)	SS 6	100	9-15-14 (29)	3.50		●	▲		
	22.0'		Moist Medium Stiff to Stiff Gray SANDY SILTY CLAY (CL-ML)	SS 7	100	2-3-2 (5)	2.00		▲	●		
	26.0'											

TTL GEOTECH STANDARD 241249.GPJ GINT US LAB.GDT 10/21/24

(Continued Next Page)



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# BORING NUMBER B-1

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									20	40	60	80
620									▲ SPT N VALUE ▲			
	30		Moist Medium Stiff Gray SILTY CLAY w/Trace Sand (CL-ML)	SS 8	100	2-3-5 (8)	1.19	102		23		
615			32.5'									
	35		Moist Hard Gray SANDY SILT w/Trace Gravel (ML)	SS 9	100	17-23-26 (49)	4.50			14		
610			@38.5': w/Gravel									
	40			SS 10	100	11-16-19 (35)	3.02	119		12		
605			@44': w/Trace Gravel									
	45			SS 11	100	12-19-23 (42)	4.50			13		
600			@48.5': w/Shale Fragments									
	50			SS 12	100	8-11-23 (34)	4.00			9		
			50.0'									
			Bottom of hole at 50.0 feet.									

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# BORING NUMBER B-2

PAGE 1 OF 2

**CLIENT** City of Conneaut **PROJECT NAME** Proposed Clark Street Water Tower

**PROJECT NUMBER** 241249 **PROJECT LOCATION** Conneaut, OH

**DRILLING CONTRACTOR** Ohio TestBor, Inc. Don Jim **RIG NO.** B-57 ATV **GROUND ELEVATION** 646 ft

**DRILLING METHOD** HSA **GROUND WATER LEVELS:**

**DATE STARTED** 7/26/24 **COMPLETED** 7/26/24 **AT TIME OF DRILLING** None

**LOGGED BY** KKC **CHECKED BY** MSI **AT END OF DRILLING** None

**NOTES** \_\_\_\_\_ **0hrs AFTER DRILLING** Backfilled w/Cuttings

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL					
									20	40	60	80		
645	0		CRUSHED STONE - 30 Inches @0.5' w/Topsoil											
	2.5'		Moist Stiff Brown SANDY SILTY CLAY (CL-ML)	SS 1	100	2-4-4 (8)	NP							▲ 17 ●
	5			SS 2	100	2-4-5 (9)	1.79	106						▲ 19 ●
640	6.0'		Moist Very Stiff Gray SANDY SILT (ML)	SS 3	100	6-11-12 (23)	4.00							▲ 19 ●
	10			SS 4	100	8-10-10 (20)	2.50							▲ 22 ●
635	15			SS 5	100	6-8-8 (16)	1.50							▲ 23 ●
630	20			SS 6	100	9-13-11 (24)	3.25							▲ 20 ●
625	22.0'		Moist Medium Stiff to Stiff Gray LEAN CLAY w/Trace Sand (CL)	SS 7	100	3-3-4 (7)	3.25							▲ 21 ●
620	25													

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(Continued Next Page)



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# BORING NUMBER B-2

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									▲ SPT N VALUE ▲			
620			@26': w/Sand and Trace Gravel						20	40	60	80
	30		@28.5': w/Trace Sand	SS 8	100	2-2-3 (5)	1.37	99			24	
615												
	35		Moist Very Stiff Gray SANDY SILT w/Shale Fragments (ML)	SS 9	100	10-12-15 (27)	NI				12	
			Bottom of hole at 35.0 feet.									

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# BORING NUMBER B-3

PAGE 1 OF 2

**CLIENT** City of Conneaut **PROJECT NAME** Proposed Clark Street Water Tower

**PROJECT NUMBER** 241249 **PROJECT LOCATION** Conneaut, OH

**DRILLING CONTRACTOR** Ohio TestBor, Inc. Don Jim **RIG NO.** B-57 ATV **GROUND ELEVATION** 646 ft

**DRILLING METHOD** HSA **GROUND WATER LEVELS:**

**DATE STARTED** 7/25/24 **COMPLETED** 7/25/24 **▽ AT TIME OF DRILLING** 13.0 ft / Elev 633.0 ft

**LOGGED BY** KKC **CHECKED BY** MSI **▼ AT END OF DRILLING** 12.0 ft / Elev 634.0 ft

**NOTES** \_\_\_\_\_ **0hrs AFTER DRILLING** Backfilled w/Cuttings

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	SPT N VALUE			
									PL	MC	LL	
645	0		CRUSHED STONE - 24 Inches									
	2.0'		Moist Medium Stiff to Stiff Brown SANDY SILTY CLAY w/Trace Gravel (CL-ML)	SS 1	100	4-3-4 (7)	NP 4.25					10, 21
	3.5'		Moist Stiff to Very Stiff Brown SANDY SILTY CLAY (CL-ML)	SS 2	100	2-4-5 (9)	3.25					20
640	5.0'		Moist Very Stiff Brown SANDY SILT (ML)									23
	@6.8'		Gray	SS 3	100	5-11-13 (24)	2.50					18
				SS 4	100	7-12-10 (22)	1.50					23
635												
	13.5'		Moist Hard Gray SANDY SILT (ML)	SS 5	100	9-15-16 (31)	1.75					20
630	17.0'		Moist Very Stiff Gray SANDY SILT (ML)									
				SS 6	100	6-9-10 (19)	2.50					23
625	22.0'		Moist Medium Stiff To Stiff Gray SILTY CLAY w/Trace Sand (CL-ML)									
				SS 7	100	3-5-6 (11)	1.75					26
620												

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(Continued Next Page)



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# BORING NUMBER B-2

**CLIENT** City of Conneaut **PROJECT NAME** Proposed Clark Street Water Tower  
**PROJECT NUMBER** 241249 **PROJECT LOCATION** Conneaut, OH

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	UNCONF. COMP. STR. (tsf)	DRY UNIT WT. (pcf)	PL MC LL			
									▲ SPT N VALUE ▲			
620			@26': w/Sand and Trace Gravel						20	40	60	80
			@28.5': w/Trace Sand	SS 8	100	2-2-3 (5)	1.37	99			24	
615	30											
			Moist Very Stiff Gray SANDY SILT w/Shale Fragments (ML)	SS 9	100	10-12-15 (27)	NI				12	
	35		Bottom of hole at 35.0 feet.									

## **APPENDIX B**

## **LEGEND KEY**

# LEGEND KEY

## Unified Soil Classification System Soil Symbols

	<b>GW - WELL GRADED GRAVEL</b> Includes Gravel-Sand mixtures, little or no fines.		<b>GP - POORLY GRADED GRAVEL</b> Includes Gravel-Sand mixtures, little or no fines.		<b>GM - SILTY GRAVEL</b> Includes Gravel-Sand-Silt mixtures.		<b>GC - CLAYEY GRAVEL</b> Includes Gravel-Sand-Clay mixtures.
	<b>SW - WELL GRADED SAND</b> Includes Gravelly Sands, little or no fines.		<b>SP - POORLY GRADED SAND</b> Includes Gravelly Sands, little or no fines.		<b>SM - SILTY SAND</b> Includes Sand-Silt mixtures.		<b>SC - CLAYEY SAND</b> Includes Sand-Clay mixtures.
	<b>ML - SILT</b> Includes Silt with Sand and Sandy Silt.		<b>CL - LEAN CLAY</b> Includes Sandy Lean Clay and Lean Clay with Sand and Gravel.		<b>MH - ELASTIC SILT</b> Includes Sandy Elastic Silt and Elastic Silt with Sand.		<b>CH - FAT CLAY</b> Includes Sandy Fat Clay and Fat Clay with Sand.
	<b>CL-ML - SILTY CLAY</b> Includes Clayey Silt of low plasticity.		<b>OL - ORGANIC SILT and ORGANIC CLAY</b> of low plasticity.		<b>OH - ORGANIC SILT and ORGANIC CLAY</b> of medium to high plasticity.		<b>Pt - PEAT</b> Includes humus, swamp and other soils with high organic content.
	<b>FILL MATERIAL</b> - Includes controlled and non-controlled soil and non-soil materials.		<b>TOPSOIL</b>		<b>ASPHALT</b> - Bituminous Asphalt		<b>CONCRETE</b> - Includes broken concrete rubble.

## Sample Symbols

	<b>SS - Split Spoon</b>		<b>ST - Shelby Tube</b>		<b>RC - Rock Core</b>		<b>GS - Geoprobe Sleeve</b>
			<b>AU - Auger Cuttings</b>		<b>GB - Grab</b>		

### Notes:

1. Exploratory borings were drilled on July 25 and 26, 2024, using hollow stem augers.
2. These logs are subject to the limitations, conclusions, and recommendations in the report and should not be interpreted separately from the report.
3. The ground surface elevations at the boring locations were obtained from Google Earth and are reported to the nearest foot.
4. Borings were drilled in conformity with the specified location plan, with all locations situated within the proposed structure's footprint
5. Unconfined Compressive Strength:  
NP = Non-Plastic  
NI = Not Intact

## **APPENDIX C**

# **TABULATION OF LABORATORY TEST DATA**



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 Toledo Ohio 43604  
 Telephone: (419)324-2222

# SUMMARY OF LABORATORY RESULTS

**CLIENT** City of Conneaut **PROJECT NAME** Proposed Clark Street Water Tower  
**PROJECT NUMBER** 241249 **PROJECT LOCATION** Conneaut, OH

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Classification	Water Content (%)	Dry Density (pcf)	Saturation (%)	Void Ratio
B-1	1.3							20.1			
B-1	2.0							21.0			
B-1	3.5	26	19	7	4.75	76	CL-ML	20.0	111.1		
B-1	6.2							18.9			
B-1	6.9							18.2			
B-1	8.5							22.4			
B-1	13.5							26.0			
B-1	18.5							19.7			
B-1	23.5							24.8			
B-1	28.5							22.8	101.6		
B-1	33.5							13.8			
B-1	38.5							12.0	118.7		
B-1	43.8							13.2			
B-1	44.5							13.6			
B-1	48.5							9.3			
B-2	1.0							16.7			
B-2	3.5							18.9	105.8		
B-2	6.0							18.9			
B-2	8.5							21.6			
B-2	13.5							22.8			
B-2	18.5							20.0			
B-2	23.5							21.3			
B-2	28.5	32	21	11	9.5	88	CL	23.9	98.7		
B-2	33.5							12.0			
B-3	1.8	NP	NP	NP	19	28	SM	9.9			
B-3	2.5							20.5			
B-3	3.5							19.8			
B-3	6.4							22.6			
B-3	7.2							18.3			
B-3	8.5							22.6			
B-3	13.5							20.5			
B-3	18.5							23.5			
B-3	23.5							25.8			
B-3	28.5							26.8	98.9		
B-3	33.5							12.4			

LAB SUMMARY 241249.GPJ GINT US LAB.GDT 10/18/24

**APPENDIX D**

**LABORATORY TEST RESULTS**

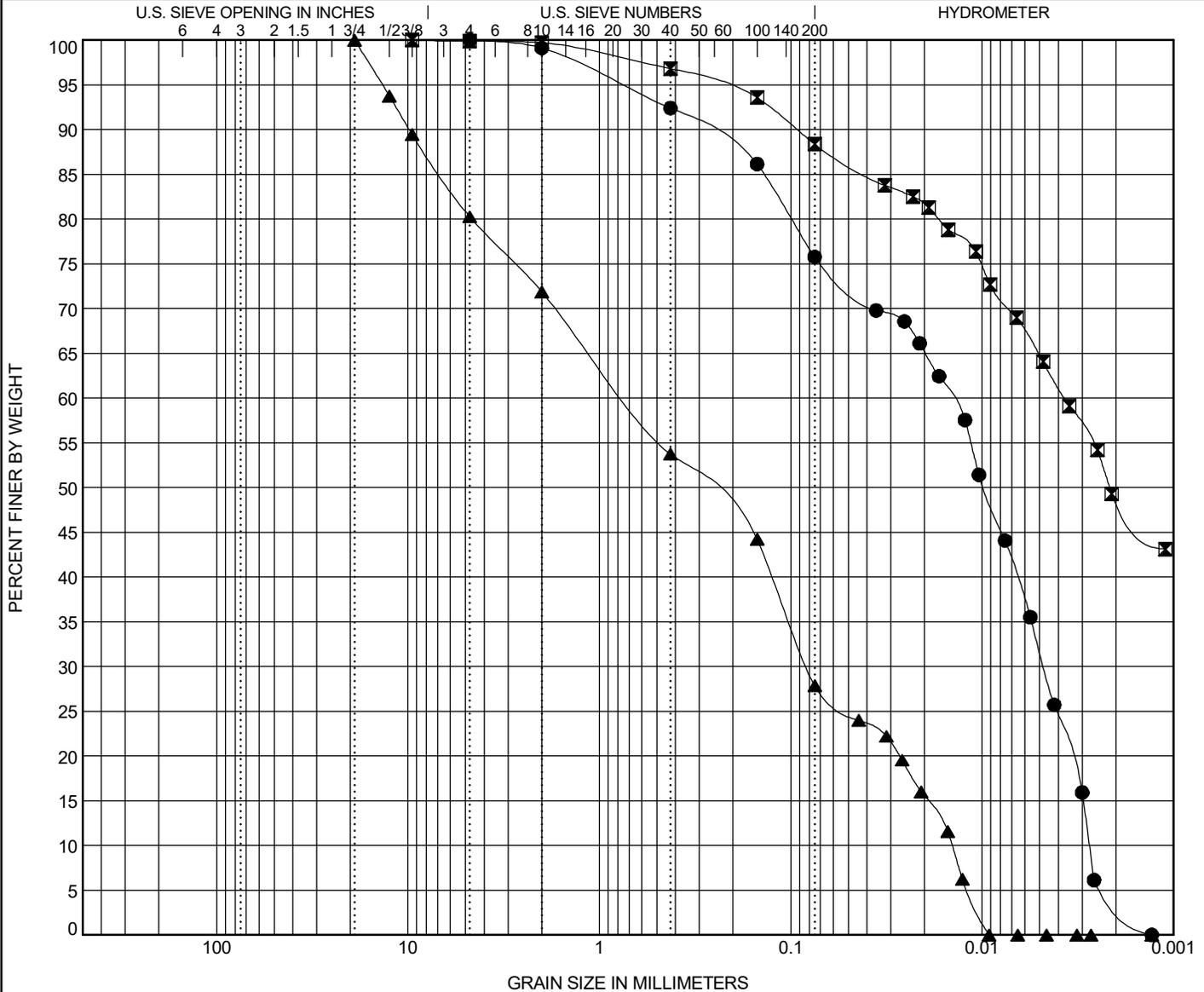




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# GRAIN SIZE DISTRIBUTION

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	USCS Classification					LL	PL	PI	Cc	Cu
● B-1 3.5	<b>SILTY CLAY with SAND (CL-ML)</b>					26	19	7	0.6	5.2
☒ B-2 28.5	<b>LEAN CLAY (CL)</b>					32	21	11		
▲ B-3 1.8	<b>SILTY SAND with GRAVEL (SM)</b>					NP	NP	NP	0.6	50.5

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-1 3.5	4.75	0.014	0.005	0.003	0.0	24.2	44.1	31.7
☒ B-2 28.5	9.5	0.004			0.1	11.5	23.7	64.7
▲ B-3 1.8	19	0.725	0.082	0.014	19.7	52.4	27.9	0.0

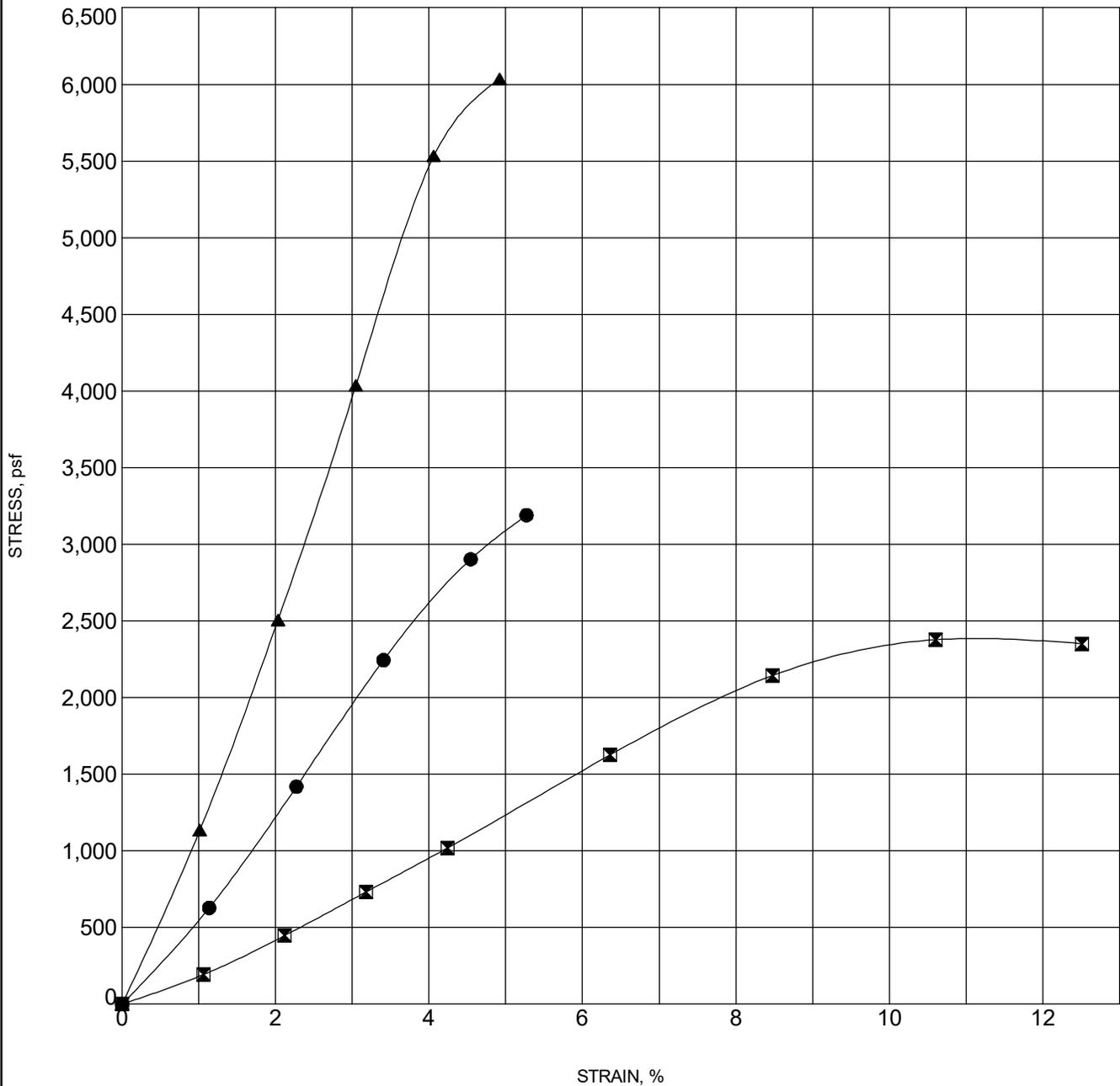
GRAIN SIZE 241249.GPJ GINT US LAB.GDT 10/18/24



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# UNCONFINED COMPRESSION TEST

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH



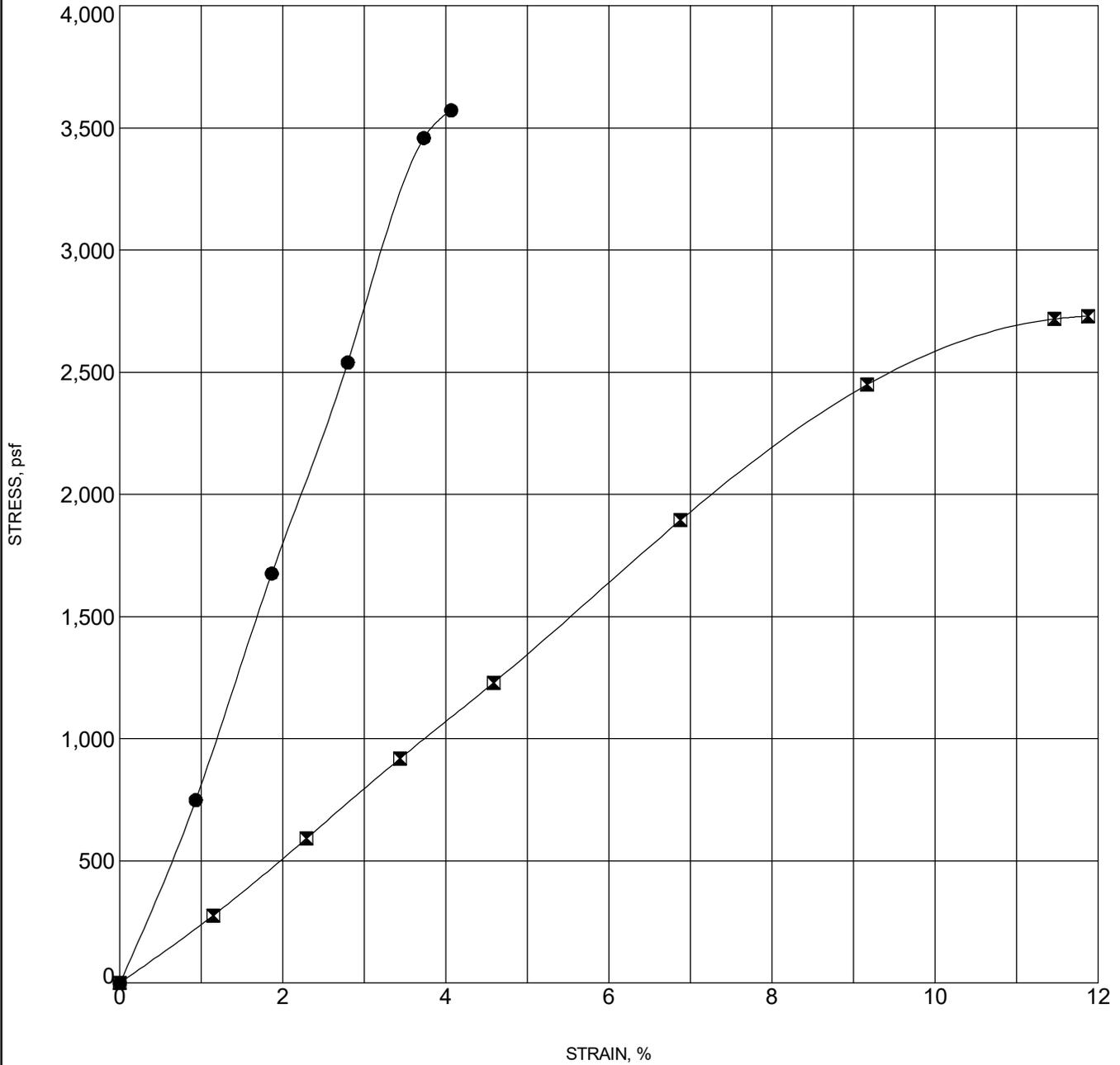
Specimen Identification	Classification	$\gamma_d$	MC%
● B-1 3.5	SILTY CLAY with SAND (CL-ML)	111	20
☒ B-1 28.5		102	23
▲ B-1 38.5		119	12



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# UNCONFINED COMPRESSION TEST

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH



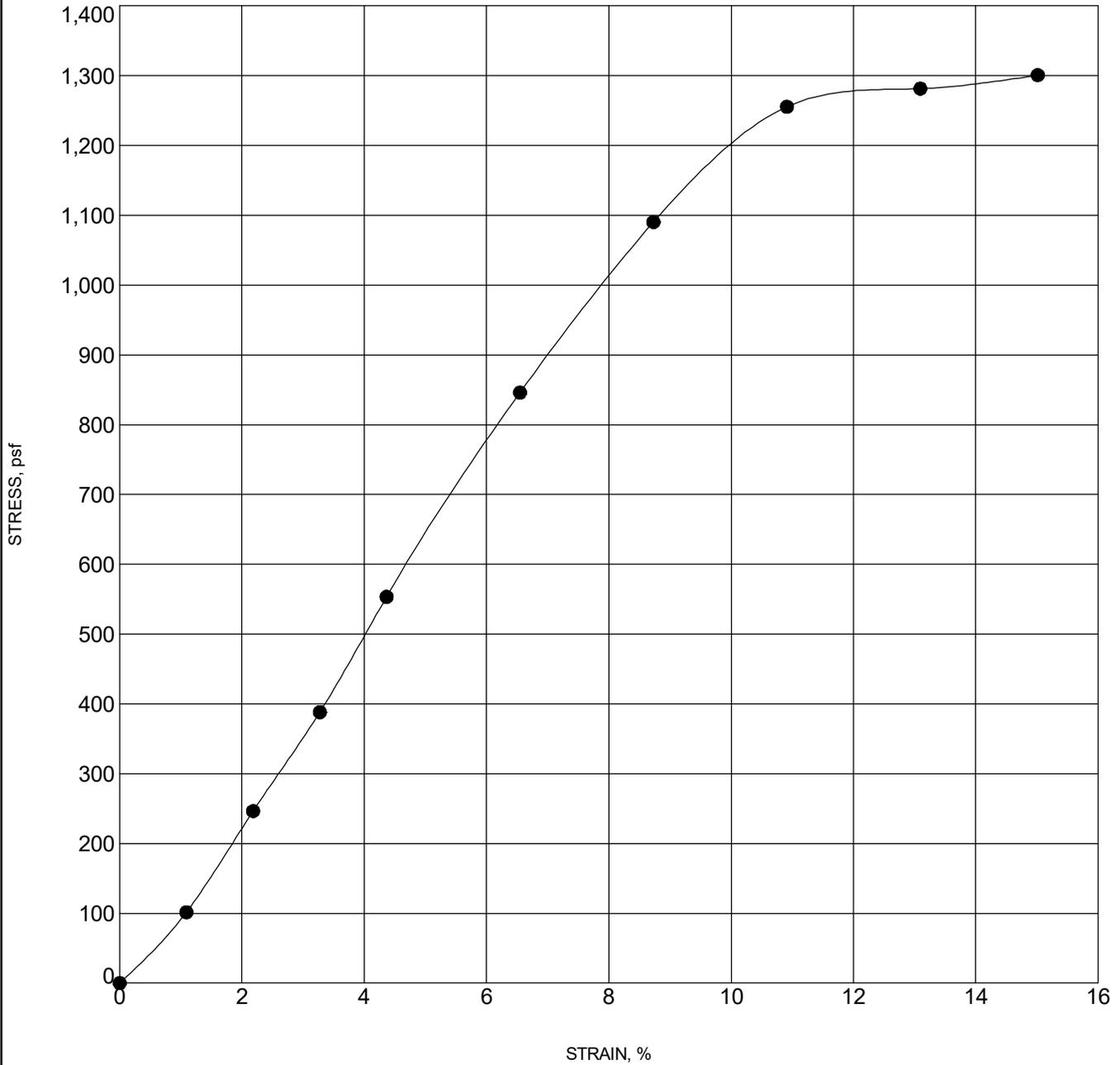
Specimen Identification	Classification	$\gamma_d$	MC%
● B-2 3.5		106	19
☒ B-2 28.5	LEAN CLAY (CL)	99	24



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# UNCONFINED COMPRESSION TEST

CLIENT City of Conneaut PROJECT NAME Proposed Clark Street Water Tower  
 PROJECT NUMBER 241249 PROJECT LOCATION Conneaut, OH



Specimen Identification		Classification	$\gamma_d$	MC%
●	<b>B-3</b>	<b>28.5</b>	<b>99</b>	<b>27</b>

**APPENDIX E**

**ENVIRONMENTAL REPORT**

# Phase II Soil Investigation

**9 Clark Street  
Conneaut, Ohio**



**PREPARED FOR  
City of Conneaut**

**294 Main Street  
Conneaut, Ohio 44030**

**CT Project Number: 241249  
ISSUED: 10/25/2024**

October 25, 2024

Mr. Nick Sanford  
City of Conneaut  
294 Main Street  
Conneaut, Ohio 44030

**Re: Phase II Soil Investigation  
9 Clark Street, Conneaut, Ohio**

Dear Mr. Sanford:

The final report for the Phase II Soil Investigation conducted for the City of Conneaut by CT Consultants, Inc. (CT) for the above referenced site is enclosed. This assessment was authorized by acceptance of CT Work Authorization dated November 15, 2023.

CT appreciates the opportunity to provide you with our environmental services. Should you have any questions or require additional information, please contact Mr. John Zampino at (440) 530-2353 or by email at [john.zampino@ctconsultants.com](mailto:john.zampino@ctconsultants.com).

Respectfully,

**CT CONSULTANTS, INC.**



---

Jonathan M. Adams  
Environmental Scientist  
Manager



---

John A. Zampino  
Senior Environmental Program

**PHASE II SOIL INVESTIGATION  
9 CLARK STREET  
CONNEAUT, OHIO**

**FOR**

**CITY OF CONNEAUT  
294 MAIN STREET  
CONNEAUT, OHIO 44030**

**OCTOBER 24, 2024  
CT PROJECT NO. 241249**

**8150 STERLING COURT  
MENTOR, OHIO 44060  
(440) 951-9000**

## Table of Contents

<b>1.0 INTRODUCTION .....</b>	<b>Error! Bookmark not defined.</b>
<b>2.0 FIELD ACTIVITIES.....</b>	<b>2</b>
2.1 Drilling and Associated Soil Sampling .....	2
<b>3.0 ANALYTICAL RESULTS .....</b>	<b>4</b>
3.1 Soil Analytical Data.....	4
<b>4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....</b>	<b>5</b>
4.1 Summary.....	5
4.2 Conclusions and Recommendations .....	5

### Tables

**Table 1.0** Summary of Soil Analytical Data

### Figures

**FIGURE 1.0:** Site Location Map

**FIGURE 2.0:** Soil Boring Location Map

### Appendices

**APPENDIX A:** Laboratory Analytical Results

## **1.0 INTRODUCTION**

This report presents the methodologies and findings of an environmental subsurface soil investigation conducted for the City of Conneaut in May 2024 for the property located at 9 Clark Street in Conneaut, Ashtabula County, Ohio (property). The City of Conneaut retained CT to perform this investigation to evaluate if metal-impacted soil will be encountered during the demolition of the water tower. This investigation was conducted to evaluate potential impacts from the use of lead containing paint. The water tower was installed prior to the regulation of lead in paint products. The Property is located at 9 Clark Street in Conneaut, Ashtabula County, Ohio. Refer to Figure 1.0 for a map showing the approximate location of the site. Based on the information provided, there is one (1) water tower that is to be demolished. Due to the unknown construction date of the water tower, it is possible that it was painted with lead-based paint. This paint may have chipped off over time into the soil below it and led to possible heavy metal contamination in the first two (2) feet of soil.

## **2.0 FIELD ACTIVITIES**

Field activities performed at the Property included advancing twenty (20) Geoprobe® soil borings, field screening of soil samples and the collection of soil samples for laboratory analysis. Standard Occupational Safety and Health Administration health and safety procedures were followed during field activities to ensure the safety of field personnel. The field activities are described in this section.

### **2.1 Drilling and Associated Soil Sampling**

SB-01 through SB-20 were advanced in a grid underneath the water tower to assess potential impacts from the use of paint containing metals. The approximate soil boring locations are depicted on Figure 2.0.

The soil borings were completed to a depth of two (2) feet in depth. The ground surface beneath the water tower is generally covered with grass and topsoil. The stratigraphy encountered generally consisted of six inches of topsoil comprised of topsoil overlying brown clayey sand or sandy clay to the termination depth of each boring. Groundwater was not encountered during this investigation. Soil samples were collected utilizing a steel shovel. Sampling equipment was decontaminated prior to the start of each boring to minimize the potential for sample cross contamination.

Based on field observations and professional judgment, one (1) soil sample from each boring was submitted for laboratory analysis. The samples were collected from the intervals that appeared most likely to be impacted based on field screening results, site stratigraphy, and the potential source of impact. Samples were labeled, immediately placed in a cooler containing ice, and transported to Summit Environmental Technologies, Inc. (Summit) in Cuyahoga Falls, Ohio for analysis of Resource Conservation and Recovery Act (RCRA) Metals by EPA Analytical Methods: 6010D for arsenic, barium, cadmium, chromium, lead, selenium, and silver and 7471 for mercury.

### **3.0 ANALYTICAL RESULTS**

This section presents a summary of the soil sample analytical data. A copy of the laboratory report is included in Appendix B.

#### **3.1 Soil Analytical Data**

The reported soil concentrations were compared to the Ohio EPA's Voluntary Action Program (VAP) Generic Direct Contact Standards (GDCS) for Commercial/Industrial Use and Construction/Excavation Worker activities. The soil analytical data, which are summarized in Table 1.0, indicate the following:

Arsenic, barium, cadmium, chromium, lead, and mercury were all detected above laboratory detection limits. Arsenic, barium, cadmium, chromium, and mercury were all well below the VAP GDCS for Commercial/Industrial Use and VAP GDCS Construction/Excavation Worker activities. Lead was detected in levels above the VAP GDCS for Commercial/Industrial Use in SB-02, SB-08, SB-10, SB-11, SB-12, SB-17, SB-18, SB-19, and SB-20. Lead was also detected in levels above the VAP GDCS for Construction/Excavation Worker activities in SB-02, SB-03, SB-07, SB-08, SB-10, SB-11, SB-12, SB-17, SB-18, SB-19, and SB-20.

## **4.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

This section provides a summary of the findings and conclusions of the Phase II Soil Investigation and associated recommendations.

### **4.1 Summary**

The findings of this subsurface investigation are summarized as follows:

The soil borings were completed to two (2) feet in depth. The ground surface under the water tower is generally covered with grass and topsoil. The stratigraphy encountered generally consisted of six (6) inches of topsoil overlying brown clayey sand or sandy clay to the termination depth of each boring. Groundwater was not encountered during soil sampling activities. Arsenic, barium, cadmium, chromium, lead, and mercury were all detected above laboratory detection limits. Arsenic, barium, cadmium, chromium, and mercury were all well below the VAP GDCS for Commercial/Industrial Use and VAP GDCS Construction/Excavation Worker activities. Lead was detected in levels above the VAP GDCS for Commercial/Industrial Use in SB-02, SB-08, SB-10, SB-11, SB-12, SB-17, SB-18, SB-19, and SB-20. Lead was also detected in levels above the VAP GDCS for Construction/Excavation Worker activities in SB-02, SB-03, SB-07, SB-08, SB-10, SB-11, SB-12, SB-17, SB-18, SB-19, and SB-20.

### **4.2 Conclusions and Recommendations**

Based on the concentrations of lead detected in soil on the Property CT recommends the following:

1. A Health and Safety Plan should be prepared for workers that will be exposed to soil on the Property during demolition of the water tower.
2. Should soil be removed from the Property it should be characterized for proper management and/or disposal.

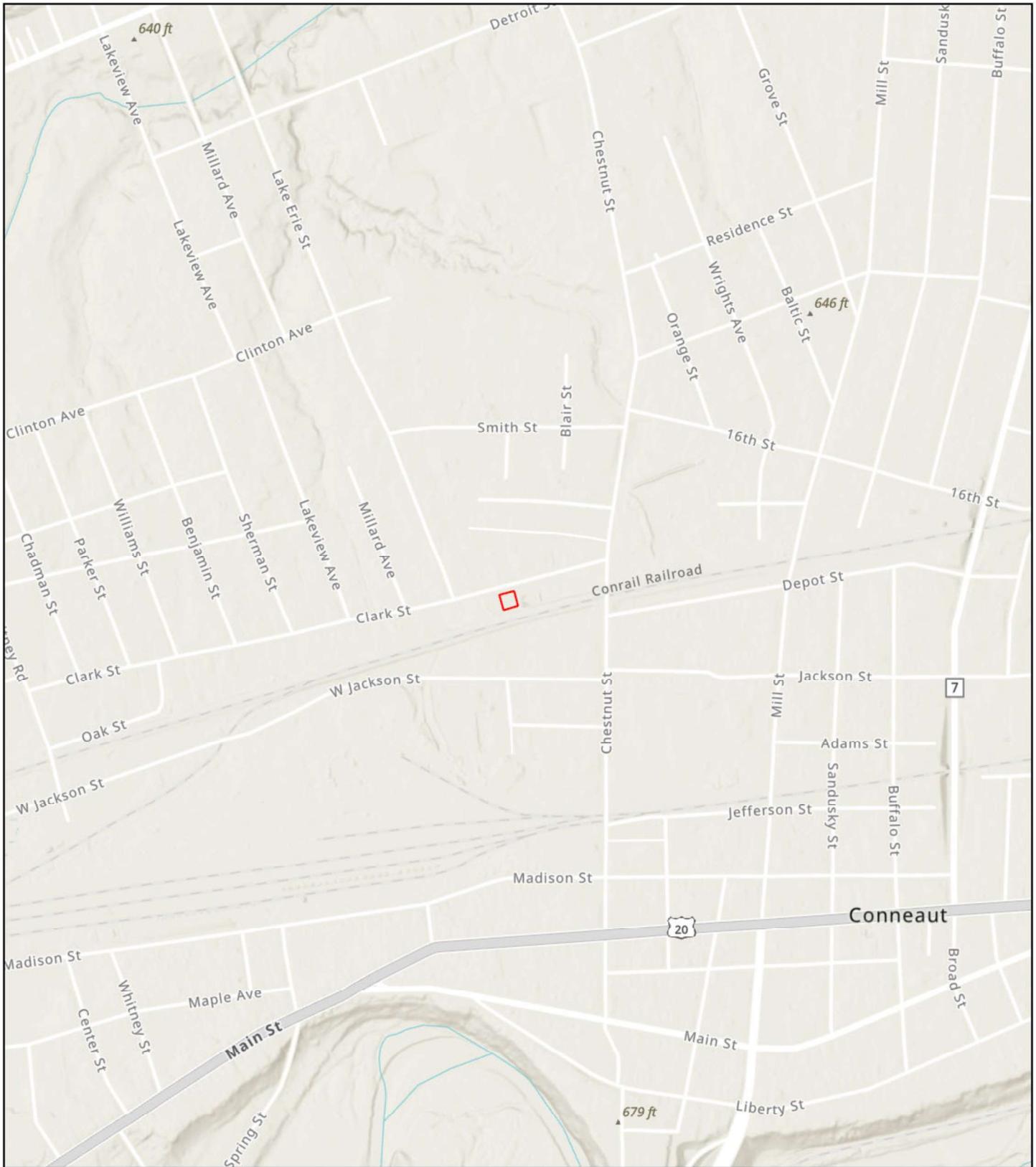
# **TABLES**

**Table 1**  
**Soil Analytical Results Compared to Voluntary Action Program Generic Direct Contact Standards for Commercial and Industrial Use**  
**Water Tower**  
**9 Clark Street**  
**Conneaut, Ohio**  
**CT Project No. 241249**

Analyte	SB-01	SB-02	SB-03	SB-04	SB-05	SB-06	SB-07	SB-08	SB-09	SB-10	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18	SB-19	SB-20	VAP Generic Direct-Contact Standard for Commercial/Industrial Use	VAP Generic Direct-Contact Standard for Construction Activities	
Depth Sampled	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'	0-2'			
Date Sampled	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024	5/30/2024			
<b>Water (Moisture) Content</b>																							
Percent Moisture	24.0	24.9	20.6	20.6	19.2	20.9	22.2	23.3	23.3	32.2	20.2	34.8	23.5	25.0	21.2	23.9	20.8	23.1	24.6	22.3	NV	NV	
<b>RCRA 8 Metals</b>																							
Arsenic	18	21.7	17.3	11.3	12.6	28.1	19.9	17.7	17.4	13.2	20.4	17.7	15	18.4	15	16.9	30.9	24.8	18.2	16	100	760	
Barium	58	156	79.8	64.4	71.5	117	121	326	87.3	152	79.5	187	80.1	98.1	97.5	96.7	170	245	140	152	760,000	350,000	
Cadmium	ND	ND	ND	ND	ND	0.557	ND	ND	ND	ND	1.06	1.31	0.682	ND	ND	ND	1.39	1.28	0.702	1.33	3,300	710	
Chromium	11.6	15.7	14.3	12.8	14.4	13.9	14.2	15.2	13.7	28.7	26.2	13.6	14.3	11.4	15.6	12.9	30.2	21.5	17.9	24.7	240	1,300	
Lead	174	<b>938</b>	<b>513</b>	61	240	312	<b>433</b>	<b>1,140</b>	176	<b>2,640</b>	<b>12,600</b>	<b>863</b>	246	313	87.4	353	<b>8,460</b>	<b>6,090</b>	<b>1,970</b>	<b>3,190</b>	800	400	
Mercury	ND	0.071	0.046	ND	0.07	0.059	ND	ND	ND	0.065	0.069	0.06	ND	ND	0.054	0.082	0.081	0.049	0.055	0.079	3.1	3.1	

- Notes:
1. All concentrations reported in milligrams per kilogram (mg/kg), which is approximately equivalent to parts per million (ppm).
  2. Bold indicates analyte above regulatory limit.
  3. NV indicates there is no value for that standard.
  4. Shaded indicates exceedance of indicated regulatory limit.
  5. ND indicates a value below laboratory method detection limit.

# FIGURES



9 Clark Street,  
 Conneaut,  
 Ashtabula County,  
 Ohio 44030

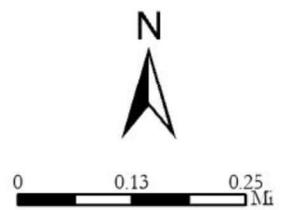
CT Consultants  
 Project: 241249

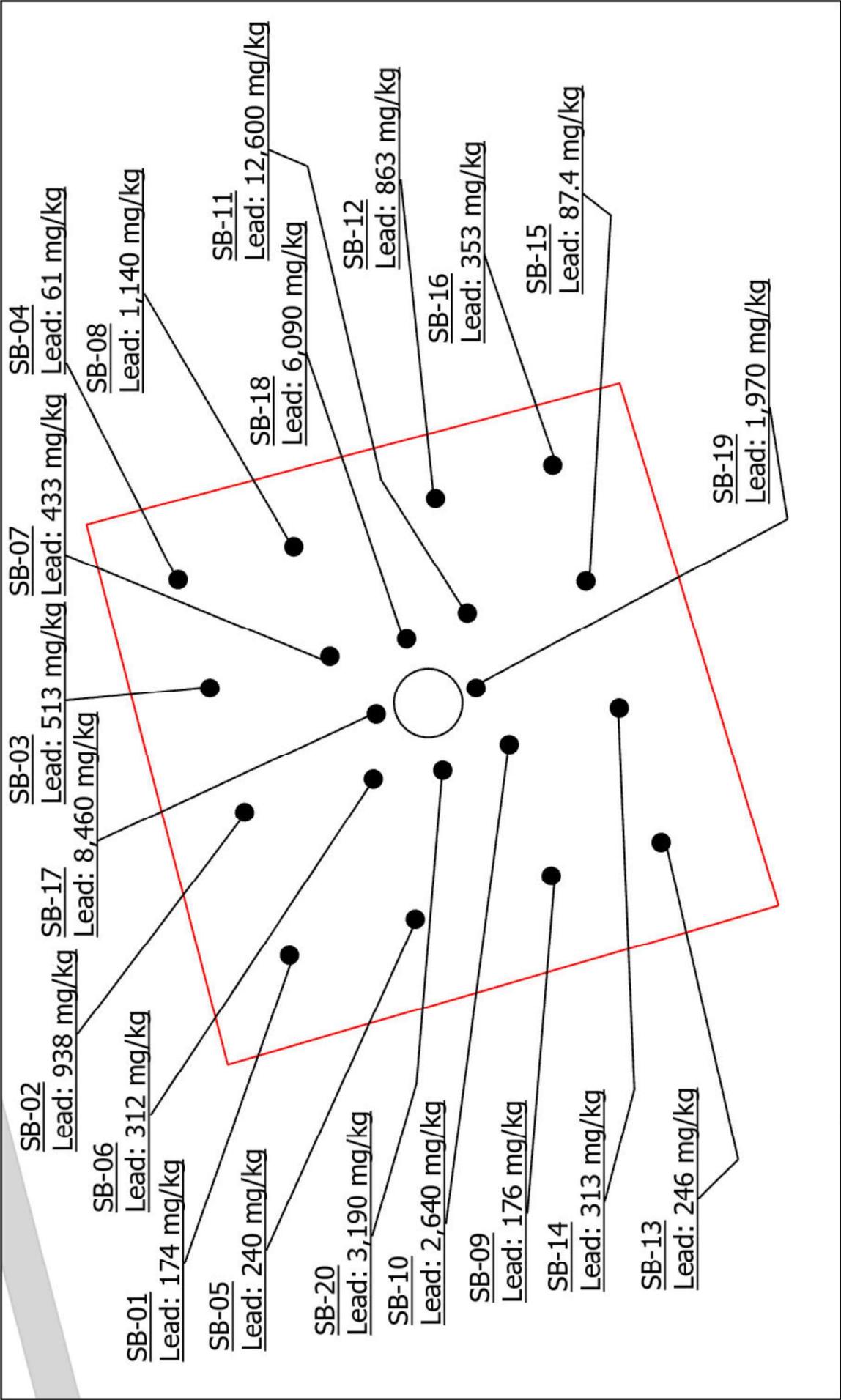
### Figure 1: Property Location Map

Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors,  
 Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph,  
 GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,  
 USDA, USFWS, NRCan, Parks Canada

2024

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere





<p>9 Clark Street, Conneaut, Ashtabula County, Ohio 44030</p> <p>CT Consultants Project: 241249</p>	<h2>Figure 2: Sample Location Map</h2>	<p>2024</p>
<p>Esri Community Maps Contributors, Province of Ontario, © OpenStreetMap, Microsoft, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, NRCan, Parks Canada</p> <p>Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere</p>		

# **APPENDICES**

**APPENDIX A**  
**LABORATORY ANALYTICAL RESULTS**



Summit Environmental Technologies, Inc.  
3310 Win St.  
Cuyahoga Falls, Ohio 44223  
TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

June 06, 2024

Johnathan Adams  
CT Consultants  
8150 Sterling Court  
Mentor, OH 44060  
TEL:  
FAX:

RE: 9 Clark Street

Dear Johnathan Adams:

Order No.: 24060039

Summit Environmental Technologies, Inc. received 20 sample(s) on 5/31/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea  
Project Manager  
3310 Win St.  
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C



**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC.  
Analytical Laboratories

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3310 Win St.  
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TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

## Case Narrative

WO#: 24060039  
Date: 6/6/2024

---

**CLIENT:** CT Consultants

**Project:** 9 Clark Street

---

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

---

Original



**SUMMIT**  
 ENVIRONMENTAL TECHNOLOGIES, INC  
 Analytical Laboratories

Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

**Workorder**  
**Sample Summary**  
 WO#: **24060039**  
**06-Jun-24**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
24060039-001	SB-01		5/30/2024 10:10:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-002	SB-02		5/30/2024 10:20:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-003	SB-03		5/30/2024 10:30:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-004	SB-04		5/30/2024 10:40:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-005	SB-05		5/30/2024 10:45:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-006	SB-06		5/30/2024 10:50:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-007	SB-07		5/30/2024 11:00:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-008	SB-08		5/30/2024 11:05:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-009	SB-09		5/30/2024 11:15:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-010	SB-10		5/30/2024 11:25:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-011	SB-11		5/30/2024 11:30:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-012	SB-12		5/30/2024 11:40:00 AM	5/31/2024 9:25:00 AM	Solid
24060039-013	SB-13		5/30/2024 12:05:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-014	SB-14		5/30/2024 12:10:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-015	SB-15		5/30/2024 12:15:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-016	SB-16		5/30/2024 12:25:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-017	SB-17		5/30/2024 12:45:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-018	SB-18		5/30/2024 12:55:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-019	SB-19		5/30/2024 1:00:00 PM	5/31/2024 9:25:00 AM	Solid
24060039-020	SB-20		5/30/2024	5/31/2024 9:25:00 AM	Solid



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-001  
**Client Sample ID:** SB-01

**Collection Date:** 5/30/2024 10:10:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>					<b>SW7471</b>	<b>SW7471A</b>
<b>MERCURY ANALYSIS (7471)</b>						Analyst: <b>MP</b>
Mercury	ND	0.057		mg/Kg-dry	1	6/5/2024 10:24:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>					<b>SW6010</b>	<b>SW3050B</b>
<b>METALS ANALYSIS (6010D)</b>						Analyst: <b>RJE</b>
Arsenic(As)	18.0	2.81		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Barium(Ba)	58.0	5.62		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Cadmium(Cd)	ND	0.562		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Chromium(Cr)	11.6	2.81		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Lead(Pb)	174	2.81		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Selenium(Se)	ND	2.81		mg/Kg-dry	1	6/6/2024 8:41:00 AM
Silver(Ag)	ND	2.81		mg/Kg-dry	1	6/6/2024 8:41:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>					<b>A2540B</b>	Analyst: <b>AAA</b>
Percent Moisture	24.0	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Cuyahoga Falls, Ohio 44223  
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# Analytical Report

(consolidated)

WO#: 24060039

Date Reported: 6/6/2024

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-002  
**Client Sample ID:** SB-02

**Collection Date:** 5/30/2024 10:20:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.071	0.054		mg/Kg-dry	1	6/5/2024 10:32:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	21.7	3.11		mg/Kg-dry	1	6/6/2024 9:01:00 AM
Barium(Ba)	156	6.22		mg/Kg-dry	1	6/6/2024 9:01:00 AM
Cadmium(Cd)	ND	0.622		mg/Kg-dry	1	6/6/2024 9:01:00 AM
Chromium(Cr)	15.7	3.11		mg/Kg-dry	1	6/6/2024 9:01:00 AM
Lead(Pb)	938	62.2		mg/Kg-dry	20	6/6/2024 10:29:00 AM
Selenium(Se)	ND	3.11		mg/Kg-dry	1	6/6/2024 9:01:00 AM
Silver(Ag)	ND	3.11		mg/Kg-dry	1	6/6/2024 9:01:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	24.9	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 10:30:00 AM

**Project:** 9 Clark Street

**Lab ID:** 24060039-003

**Matrix:** SOLID

**Client Sample ID:** SB-03

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.046	0.046		mg/Kg-dry	1	6/5/2024 10:35:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	17.3	2.86		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Barium(Ba)	79.8	5.73		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Cadmium(Cd)	ND	0.573		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Chromium(Cr)	14.3	2.86		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Lead(Pb)	513	2.86		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Selenium(Se)	ND	2.86		mg/Kg-dry	1	6/6/2024 9:04:00 AM
Silver(Ag)	ND	2.86		mg/Kg-dry	1	6/6/2024 9:04:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	20.6	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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Cuyahoga Falls, Ohio 44223  
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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 10:40:00 AM

**Project:** 9 Clark Street

**Lab ID:** 24060039-004

**Matrix:** SOLID

**Client Sample ID:** SB-04

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.054		mg/Kg-dry	1	6/5/2024 10:38:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	11.3	2.97		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Barium(Ba)	64.4	5.94		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Cadmium(Cd)	ND	0.594		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Chromium(Cr)	12.8	2.97		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Lead(Pb)	61.0	2.97		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Selenium(Se)	ND	2.97		mg/Kg-dry	1	6/6/2024 9:08:00 AM
Silver(Ag)	ND	2.97		mg/Kg-dry	1	6/6/2024 9:08:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	20.6	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 10:45:00 AM

**Project:** 9 Clark Street

**Lab ID:** 24060039-005

**Matrix:** SOLID

**Client Sample ID:** SB-05

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.070	0.059		mg/Kg-dry	1	6/5/2024 10:40:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	12.6	2.74		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Barium(Ba)	71.5	5.47		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Cadmium(Cd)	ND	0.547		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Chromium(Cr)	14.4	2.74		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Lead(Pb)	240	2.74		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Selenium(Se)	ND	2.74		mg/Kg-dry	1	6/6/2024 9:11:00 AM
Silver(Ag)	ND	2.74		mg/Kg-dry	1	6/6/2024 9:11:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	19.2	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-006  
**Client Sample ID:** SB-06

**Collection Date:** 5/30/2024 10:50:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.059	0.046		mg/Kg-dry	1	6/5/2024 10:43:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	28.1	2.68		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Barium(Ba)	117	5.36		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Cadmium(Cd)	0.557	0.536		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Chromium(Cr)	13.9	2.68		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Lead(Pb)	312	2.68		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Selenium(Se)	ND	2.68		mg/Kg-dry	1	6/6/2024 9:15:00 AM
Silver(Ag)	ND	2.68		mg/Kg-dry	1	6/6/2024 9:15:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	20.9	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



Summit Environmental Technologies, Inc.  
 3310 Win St.  
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 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-007  
**Client Sample ID:** SB-07

**Collection Date:** 5/30/2024 11:00:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.058		mg/Kg-dry	1	6/5/2024 10:46:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	19.9	3.03		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Barium(Ba)	121	6.06		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Cadmium(Cd)	ND	0.606		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Chromium(Cr)	14.2	3.03		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Lead(Pb)	433	3.03		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Selenium(Se)	ND	3.03		mg/Kg-dry	1	6/6/2024 9:18:00 AM
Silver(Ag)	ND	3.03		mg/Kg-dry	1	6/6/2024 9:18:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	22.2	0.100		%	1	6/3/2024 4:10:00 PM

**Qualifiers:**

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-008  
**Client Sample ID:** SB-08

**Collection Date:** 5/30/2024 11:05:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.054		mg/Kg-dry	1	6/5/2024 10:49:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	17.7	2.91		mg/Kg-dry	1	6/6/2024 9:21:00 AM
Barium(Ba)	326	5.82		mg/Kg-dry	1	6/6/2024 9:21:00 AM
Cadmium(Cd)	ND	0.582		mg/Kg-dry	1	6/6/2024 9:21:00 AM
Chromium(Cr)	15.2	2.91		mg/Kg-dry	1	6/6/2024 9:21:00 AM
Lead(Pb)	1140	58.2		mg/Kg-dry	20	6/6/2024 10:32:00 AM
Selenium(Se)	ND	2.91		mg/Kg-dry	1	6/6/2024 9:21:00 AM
Silver(Ag)	ND	2.91		mg/Kg-dry	1	6/6/2024 9:21:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	23.3	0.100		%	1	6/3/2024 4:10:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-009  
**Client Sample ID:** SB-09

**Collection Date:** 5/30/2024 11:15:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.047		mg/Kg-dry	1	6/5/2024 10:51:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	17.4	3.13		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Barium(Ba)	87.3	6.27		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Cadmium(Cd)	ND	0.627		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Chromium(Cr)	13.7	3.13		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Lead(Pb)	176	3.13		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Selenium(Se)	ND	3.13		mg/Kg-dry	1	6/6/2024 9:25:00 AM
Silver(Ag)	ND	3.13		mg/Kg-dry	1	6/6/2024 9:25:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	23.3	0.100		%	1	6/3/2024 4:10:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
 M Manual Integration used to determine area response ND Not Detected  
 PL Permit Limit RL Reporting Detection Limit  
 W Sample container temperature is out of limit as specified at testcode



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# Analytical Report

(consolidated)

WO#: 24060039

Date Reported: 6/6/2024

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-010  
**Client Sample ID:** SB-10

**Collection Date:** 5/30/2024 11:25:00 AM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.065	0.064		mg/Kg-dry	1	6/5/2024 11:00:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	13.2	3.69		mg/Kg-dry	1	6/6/2024 9:28:00 AM
Barium(Ba)	152	7.38		mg/Kg-dry	1	6/6/2024 9:28:00 AM
Cadmium(Cd)	1.06	0.738		mg/Kg-dry	1	6/6/2024 9:28:00 AM
Chromium(Cr)	28.7	3.69		mg/Kg-dry	1	6/6/2024 9:28:00 AM
Lead(Pb)	2640	73.8		mg/Kg-dry	20	6/6/2024 10:36:00 AM
Selenium(Se)	ND	3.69		mg/Kg-dry	1	6/6/2024 9:28:00 AM
Silver(Ag)	ND	3.69		mg/Kg-dry	1	6/6/2024 9:28:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	32.2	0.100		%	1	6/4/2024 3:40:00 PM

**Qualifiers:**

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: 24060039

Date Reported: 6/6/2024

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 11:30:00 AM

**Project:** 9 Clark Street

**Lab ID:** 24060039-011

**Matrix:** SOLID

**Client Sample ID:** SB-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.069	0.050		mg/Kg-dry	1	6/5/2024 11:03:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	20.4	2.82		mg/Kg-dry	1	6/6/2024 9:32:00 AM
Barium(Ba)	79.5	5.65		mg/Kg-dry	1	6/6/2024 9:32:00 AM
Cadmium(Cd)	1.31	0.565		mg/Kg-dry	1	6/6/2024 9:32:00 AM
Chromium(Cr)	26.2	2.82		mg/Kg-dry	1	6/6/2024 9:32:00 AM
Lead(Pb)	12600	282		mg/Kg-dry	100	6/6/2024 10:39:00 AM
Selenium(Se)	ND	2.82		mg/Kg-dry	1	6/6/2024 9:32:00 AM
Silver(Ag)	ND	2.82		mg/Kg-dry	1	6/6/2024 9:32:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	20.2	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 11:40:00 AM

**Project:** 9 Clark Street

**Lab ID:** 24060039-012

**Matrix:** SOLID

**Client Sample ID:** SB-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.060	0.056		mg/Kg-dry	1	6/5/2024 11:05:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	17.7	3.25		mg/Kg-dry	1	6/6/2024 9:45:00 AM
Barium(Ba)	187	6.50		mg/Kg-dry	1	6/6/2024 9:45:00 AM
Cadmium(Cd)	0.682	0.650		mg/Kg-dry	1	6/6/2024 9:45:00 AM
Chromium(Cr)	13.6	3.25		mg/Kg-dry	1	6/6/2024 9:45:00 AM
Lead(Pb)	863	65.0		mg/Kg-dry	20	6/6/2024 10:42:00 AM
Selenium(Se)	ND	3.25		mg/Kg-dry	1	6/6/2024 9:45:00 AM
Silver(Ag)	ND	3.25		mg/Kg-dry	1	6/6/2024 9:45:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	34.8	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: 24060039

Date Reported: 6/6/2024

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-013  
**Client Sample ID:** SB-13

**Collection Date:** 5/30/2024 12:05:00 PM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.057		mg/Kg-dry	1	6/5/2024 11:08:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	15.0	2.89		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Barium(Ba)	80.1	5.78		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Cadmium(Cd)	ND	0.578		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Chromium(Cr)	14.3	2.89		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Lead(Pb)	246	2.89		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Selenium(Se)	ND	2.89		mg/Kg-dry	1	6/6/2024 9:49:00 AM
Silver(Ag)	ND	2.89		mg/Kg-dry	1	6/6/2024 9:49:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	23.5	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 12:10:00 PM

**Project:** 9 Clark Street

**Lab ID:** 24060039-014

**Matrix:** SOLID

**Client Sample ID:** SB-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.057		mg/Kg-dry	1	6/5/2024 11:11:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	18.4	3.03		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Barium(Ba)	98.1	6.06		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Cadmium(Cd)	ND	0.606		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Chromium(Cr)	11.4	3.03		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Lead(Pb)	313	3.03		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Selenium(Se)	ND	3.03		mg/Kg-dry	1	6/6/2024 9:52:00 AM
Silver(Ag)	ND	3.03		mg/Kg-dry	1	6/6/2024 9:52:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	25.0	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 12:15:00 PM

**Project:** 9 Clark Street

**Lab ID:** 24060039-015

**Matrix:** SOLID

**Client Sample ID:** SB-15

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.054	0.054		mg/Kg-dry	1	6/5/2024 11:14:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	15.0	2.86		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Barium(Ba)	97.5	5.72		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Cadmium(Cd)	ND	0.572		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Chromium(Cr)	15.6	2.86		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Lead(Pb)	87.4	2.86		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Selenium(Se)	ND	2.86		mg/Kg-dry	1	6/6/2024 9:55:00 AM
Silver(Ag)	ND	2.86		mg/Kg-dry	1	6/6/2024 9:55:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	21.2	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-016  
**Client Sample ID:** SB-16

**Collection Date:** 5/30/2024 12:25:00 PM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.082	0.054		mg/Kg-dry	1	6/5/2024 11:17:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	16.9	3.22		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Barium(Ba)	96.7	6.45		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Cadmium(Cd)	ND	0.645		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Chromium(Cr)	12.9	3.22		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Lead(Pb)	353	3.22		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Selenium(Se)	ND	3.22		mg/Kg-dry	1	6/6/2024 9:59:00 AM
Silver(Ag)	ND	3.22		mg/Kg-dry	1	6/6/2024 9:59:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	23.9	0.100		%	1	6/4/2024 3:40:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
 M Manual Integration used to determine area response ND Not Detected  
 PL Permit Limit RL Reporting Detection Limit  
 W Sample container temperature is out of limit as specified at testcode



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-017  
**Client Sample ID:** SB-17

**Collection Date:** 5/30/2024 12:45:00 PM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>					<b>SW7471</b>	<b>SW7471A</b>
<b>MERCURY ANALYSIS (7471)</b>						Analyst: <b>MP</b>
Mercury	0.081	0.051		mg/Kg-dry	1	6/5/2024 11:19:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>					<b>SW6010</b>	<b>SW3050B</b>
<b>METALS ANALYSIS (6010D)</b>						Analyst: <b>RJE</b>
Arsenic(As)	30.9	2.65		mg/Kg-dry	1	6/6/2024 10:02:00 AM
Barium(Ba)	170	5.31		mg/Kg-dry	1	6/6/2024 10:02:00 AM
Cadmium(Cd)	1.39	0.531		mg/Kg-dry	1	6/6/2024 10:02:00 AM
Chromium(Cr)	30.2	2.65		mg/Kg-dry	1	6/6/2024 10:02:00 AM
Lead(Pb)	8460	265		mg/Kg-dry	100	6/6/2024 10:46:00 AM
Selenium(Se)	ND	2.65		mg/Kg-dry	1	6/6/2024 10:02:00 AM
Silver(Ag)	ND	2.65		mg/Kg-dry	1	6/6/2024 10:02:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>					<b>A2540B</b>	Analyst: <b>AAA</b>
Percent Moisture	20.8	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: 24060039

Date Reported: 6/6/2024

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-018  
**Client Sample ID:** SB-18

**Collection Date:** 5/30/2024 12:55:00 PM

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.049	0.049		mg/Kg-dry	1	6/4/2024 11:40:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	24.8	2.71		mg/Kg-dry	1	6/6/2024 10:06:00 AM
Barium(Ba)	245	5.42		mg/Kg-dry	1	6/6/2024 10:06:00 AM
Cadmium(Cd)	1.28	0.542		mg/Kg-dry	1	6/6/2024 10:06:00 AM
Chromium(Cr)	21.5	2.71		mg/Kg-dry	1	6/6/2024 10:06:00 AM
Lead(Pb)	6090	271		mg/Kg-dry	100	6/6/2024 10:49:00 AM
Selenium(Se)	ND	2.71		mg/Kg-dry	1	6/6/2024 10:06:00 AM
Silver(Ag)	ND	2.71		mg/Kg-dry	1	6/6/2024 10:06:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	23.1	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants

**Collection Date:** 5/30/2024 1:00:00 PM

**Project:** 9 Clark Street

**Lab ID:** 24060039-019

**Matrix:** SOLID

**Client Sample ID:** SB-19

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	ND	0.055		mg/Kg-dry	1	6/4/2024 11:43:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	18.2	2.79		mg/Kg-dry	1	6/6/2024 10:09:00 AM
Barium(Ba)	140	5.57		mg/Kg-dry	1	6/6/2024 10:09:00 AM
Cadmium(Cd)	0.702	0.557		mg/Kg-dry	1	6/6/2024 10:09:00 AM
Chromium(Cr)	17.9	2.79		mg/Kg-dry	1	6/6/2024 10:09:00 AM
Lead(Pb)	1970	55.7		mg/Kg-dry	20	6/6/2024 10:53:00 AM
Selenium(Se)	ND	2.79		mg/Kg-dry	1	6/6/2024 10:09:00 AM
Silver(Ag)	ND	2.79		mg/Kg-dry	1	6/6/2024 10:09:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	24.6	0.100		%	1	6/4/2024 3:40:00 PM

<b>Qualifiers:</b>	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Manual Integration used to determine area response	ND	Not Detected
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(consolidated)

WO#: **24060039**

Date Reported: **6/6/2024**

**CLIENT:** CT Consultants  
**Project:** 9 Clark Street  
**Lab ID:** 24060039-020  
**Client Sample ID:** SB-20

**Collection Date:** 5/30/2024

**Matrix:** SOLID

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW7471</b>	<b>SW7471A</b>	Analyst: <b>MP</b>
<b>MERCURY ANALYSIS (7471)</b>						
Mercury	0.079	0.057		mg/Kg-dry	1	6/4/2024 11:46:00 AM
<b>RCRA METALS (SW6010/SW7471)</b>				<b>SW6010</b>	<b>SW3050B</b>	Analyst: <b>RJE</b>
<b>METALS ANALYSIS (6010D)</b>						
Arsenic(As)	16.0	2.82		mg/Kg-dry	1	6/6/2024 10:12:00 AM
Barium(Ba)	152	5.65		mg/Kg-dry	1	6/6/2024 10:12:00 AM
Cadmium(Cd)	1.33	0.565		mg/Kg-dry	1	6/6/2024 10:12:00 AM
Chromium(Cr)	24.7	2.82		mg/Kg-dry	1	6/6/2024 10:12:00 AM
Lead(Pb)	3190	141		mg/Kg-dry	50	6/6/2024 10:56:00 AM
Selenium(Se)	ND	2.82		mg/Kg-dry	1	6/6/2024 10:12:00 AM
Silver(Ag)	ND	2.82		mg/Kg-dry	1	6/6/2024 10:12:00 AM
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>AAA</b>
Percent Moisture	22.3	0.100		%	1	6/4/2024 3:40:00 PM

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded  
 M Manual Integration used to determine area response ND Not Detected  
 PL Permit Limit RL Reporting Detection Limit  
 W Sample container temperature is out of limit as specified at testcode



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** 75803

Sample ID: <b>MB-75803</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186803</b>						
Client ID: <b>PBS</b>	Batch ID: <b>75803</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5061621</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.042									

Sample ID: <b>LCS-75803</b>	SampType: <b>LCS</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186803</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>75803</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5061622</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.34	0.042	0.33	0	103	80	120				

Sample ID: <b>24060039-020AMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186803</b>						
Client ID: <b>SB-20</b>	Batch ID: <b>75803</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5061626</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.53	0.060	0.48	0.079	95.3	75	125				

Sample ID: <b>24060039-020AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186803</b>						
Client ID: <b>SB-20</b>	Batch ID: <b>75803</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5061627</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.50	0.055	0.44	0.079	94.9	75	125	0.53	6.48	20	

**Qualifiers:**

- |    |   |    |   |    |  |
|----|---|----|---|----|--|
| E  | Value above quantitation range                  | H  | Holding times for preparation or analysis exceeded                    | M  | Manual Integration used to determine area respon |
| ND | Not Detected                                    | PL | Permit Limit  | RL | Reporting Detection Limit                        |
| S  | Spike Recovery outside accepted recovery limits | W  | Sample container temperature is out of limit as specified at testcode |    |  |



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** 75805

Sample ID: <b>MB-75805</b>	SampType: <b>MBLK</b>	TestCode: <b>Mtl-ICP_S(60)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186873</b>						
Client ID: <b>PBS</b>	Batch ID: <b>75805</b>	TestNo: <b>SW6010</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2024</b>	SeqNo: <b>5064655</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic(As)	ND	2.17									
Barium(Ba)	ND	4.35									
Cadmium(Cd)	ND	0.435									
Chromium(Cr)	ND	2.17									
Lead(Pb)	ND	2.17									
Selenium(Se)	ND	2.17									
Silver(Ag)	ND	1.30									

Sample ID: <b>LCS-75805</b>	SampType: <b>LCS</b>	TestCode: <b>Mtl-ICP_S(60)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186873</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>75805</b>	TestNo: <b>SW6010</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2024</b>	SeqNo: <b>5064656</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic(As)	91.9	2.48	99.01	0	92.8	80	120				
Barium(Ba)	101	4.95	99.01	0	102	80	120				
Cadmium(Cd)	92.1	0.495	99.01	0	93.0	80	120				
Chromium(Cr)	99.8	2.48	99.01	0	101	80	120				
Lead(Pb)	96.4	2.48	99.01	0	97.4	80	120				
Selenium(Se)	79.3	2.48	99.01	0	80.1	80	120				
Silver(Ag)	48.2	1.49	49.50	0	97.4	80	120				

<b>Qualifiers:</b>	E Value above quantitation range	H Holding times for preparation or analysis exceeded	M Manual Integration used to determine area respon
	ND Not Detected	PL Permit Limit	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	W Sample container temperature is out of limit as specified at testcode	



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** 75805

Sample ID: <b>LCS-75805</b>	SampType: <b>LCS</b>	TestCode: <b>Mtl-ICP_S(60)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186873</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>75805</b>	TestNo: <b>SW6010</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2024</b>	SeqNo: <b>5064657</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic(As)	7.34	2.48	7.921	0	92.7	80	120				
Barium(Ba)	10.5	4.95	9.901	0	106	80	120				
Cadmium(Cd)	1.96	0.495	1.980	0	98.8	80	120				
Chromium(Cr)	8.32	2.48	7.921	0	105	80	120				
Lead(Pb)	20.1	2.48	19.80	0	102	80	120				
Selenium(Se)	8.15	2.48	9.901	0	82.4	80	120				
Silver(Ag)	1.90	1.49	1.980	0	96.2	80	120				

Sample ID: <b>24060039-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>Mtl-ICP_S(60)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186873</b>						
Client ID: <b>SB-01</b>	Batch ID: <b>75805</b>	TestNo: <b>SW6010</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2024</b>	SeqNo: <b>5064659</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic(As)	129	2.94	117.4	17.97	94.4	75	125				
Barium(Ba)	177	5.87	117.4	58.02	102	75	125				
Cadmium(Cd)	108	0.587	117.4	0.3597	91.3	75	125				
Chromium(Cr)	130	2.94	117.4	11.63	101	75	125				
Lead(Pb)	277	2.94	117.4	174.3	87.8	75	125				
Selenium(Se)	96.3	2.94	117.4	0	82.0	75	125				
Silver(Ag)	58.5	1.76	58.72	0	99.7	75	125				

**Qualifiers:**

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respon
ND	Not Detected	PL	Permit Limit	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** 75805

Sample ID: <b>24060039-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>Mtl-ICP_S(60)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186873</b>						
Client ID: <b>SB-01</b>	Batch ID: <b>75805</b>	TestNo: <b>SW6010</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2024</b>	SeqNo: <b>5064660</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic(As)	138	3.13	125.3	17.97	96.0	75	125	128.8	7.01	20	
Barium(Ba)	187	6.26	125.3	58.02	103	75	125	177.3	5.50	20	
Cadmium(Cd)	117	0.626	125.3	0.3597	93.2	75	125	107.6	8.38	20	
Chromium(Cr)	140	3.13	125.3	11.63	103	75	125	130.3	7.49	20	
Lead(Pb)	296	3.13	125.3	174.3	96.8	75	125	277.4	6.32	20	
Selenium(Se)	105	3.13	125.3	0	83.8	75	125	96.29	8.65	20	
Silver(Ag)	63.6	1.88	62.63	0	101	75	125	58.52	8.25	20	

**Qualifiers:**

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respon
ND	Not Detected	PL	Permit Limit	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** 75808

Sample ID: <b>MB-75808</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186899</b>
Client ID: <b>PBS</b>	Batch ID: <b>75808</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/5/2024</b>	SeqNo: <b>5063613</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.042			

Sample ID: <b>LCS-75808</b>	SampType: <b>LCS</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186899</b>
Client ID: <b>LCSS</b>	Batch ID: <b>75808</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/5/2024</b>	SeqNo: <b>5063614</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.33	0.042	0.33	0	98.5 80 120

Sample ID: <b>24060039-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186899</b>
Client ID: <b>SB-01</b>	Batch ID: <b>75808</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/5/2024</b>	SeqNo: <b>5063616</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.48	0.061	0.49	0.044	89.7 75 125

Sample ID: <b>24060039-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_S(7471B)</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2024</b>	RunNo: <b>186899</b>
Client ID: <b>SB-01</b>	Batch ID: <b>75808</b>	TestNo: <b>SW7471</b>	<b>SW7471A</b>	Analysis Date: <b>6/5/2024</b>	SeqNo: <b>5063617</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.54	0.060	0.48	0.044	103 75 125 0.48 10.7 20

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded M Manual Integration used to determine area response  
 ND Not Detected PL Permit Limit RL Reporting Detection Limit  
 S Spike Recovery outside accepted recovery limits W Sample container temperature is out of limit as specified at testcode



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** R186772

Sample ID: <b>MB-R186772</b>	SampType: <b>MBLK</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186772</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R186772</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/3/2024</b>	SeqNo: <b>5060948</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.100									

Sample ID: <b>24060004-005BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186772</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R186772</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/3/2024</b>	SeqNo: <b>5060957</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	17.2	0.100						16.59	3.41	5	

Sample ID: <b>24060039-009ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186772</b>							
Client ID: <b>SB-09</b>	Batch ID: <b>R186772</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/3/2024</b>	SeqNo: <b>5060967</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	23.1	0.100						23.26	0.808	5	

**Qualifiers:**

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respon
ND	Not Detected	PL	Permit Limit	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode		



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# QC SUMMARY REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

**BatchID:** R186870

Sample ID: <b>MB-R186870</b>	SampType: <b>MBLK</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186870</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R186870</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5063030</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.100									

Sample ID: <b>24060039-017ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186870</b>							
Client ID: <b>SB-17</b>	Batch ID: <b>R186870</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5063039</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	21.2	0.100						20.81	1.83	5	

Sample ID: <b>24060096-006ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>186870</b>							
Client ID: <b>BatchQC</b>	Batch ID: <b>R186870</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>6/4/2024</b>	SeqNo: <b>5063049</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	39.7	0.100						40.44	1.75	5	

**Qualifiers:** E Value above quantitation range H Holding times for preparation or analysis exceeded M Manual Integration used to determine area respo  
 ND Not Detected PL Permit Limit RL Reporting Detection Limit  
 S Spike Recovery outside accepted recovery limits W Sample container temperature is out of limit as specified at testcode



These commonly used Qualifiers and Acronyms may or may not be present in this report.

**Qualifiers**

<b>U</b>	The compound was analyzed for but was not detected above the MDL.
<b>J</b>	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
<b>H</b>	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
<b>D</b>	The result is reported from a dilution.
<b>E</b>	The result exceeded the linear range of the calibration or is estimated due to interference.
<b>MC</b>	The result is below the Minimum Compound Limit.
<b>*</b>	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
<b>m</b>	Manual integration was used to determine the area response.
<b>d</b>	Manual integration in which peak was deleted
<b>N</b>	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
<b>P</b>	The second column confirmation exceeded 25% difference.
<b>C</b>	The result has been confirmed by GC/MS.
<b>X</b>	The result was not confirmed when GC/MS Analysis was performed.
<b>B</b>	The analyte was detected in the Method Blank at a concentration greater than the RL.
<b>MB+</b>	The analyte was detected in the Method Blank at a concentration greater than the MDL.
<b>G</b>	The ICB or CCB contained reportable amounts of analyte.
<b>QC-/+</b>	The CCV recovery failed low (-) or high (+).
<b>R/QDR</b>	The RPD was outside of accepted recovery limits.
<b>QL-/+</b>	The LCS or LCSD recovery failed low (-) or high (+).
<b>QLR</b>	The LCS/LCSD RPD was outside of accepted recovery limits.
<b>QM-/+</b>	The MS or MSD recovery failed low (-) or high (+).
<b>QMR</b>	The MS/MSD RPD was outside of accepted recovery limits.
<b>QV-/+</b>	The ICV recovery failed low (-) or high (+).
<b>S</b>	The spike result was outside of accepted recovery limits.
<b>W</b>	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
<b>Z</b>	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

**Acronyms**

<b>ND</b>	Not Detected	<b>RL</b>	Reporting Limit
<b>QC</b>	Quality Control	<b>MDL</b>	Method Detection Limit
<b>MB</b>	Method Blank	<b>LOD</b>	Level of Detection
<b>LCS</b>	Laboratory Control Sample	<b>LOQ</b>	Level of Quantitation
<b>LCSD</b>	Laboratory Control Sample Duplicate	<b>PQL</b>	Practical Quantitation Limit
<b>QCS</b>	Quality Control Sample	<b>CRQL</b>	Contract Required Quantitation Limit
<b>DUP</b>	Duplicate	<b>PL</b>	Permit Limit
<b>MS</b>	Matrix Spike	<b>RegLvl</b>	Regulatory Limit
<b>MSD</b>	Matrix Spike Duplicate	<b>MCL</b>	Maximum Contamination Limit
<b>RPD</b>	Relative Percent Different	<b>MinCL</b>	Minimum Compound Limit
<b>ICV</b>	Initial Calibration Verification	<b>RA</b>	Reanalysis
<b>ICB</b>	Initial Calibration Blank	<b>RE</b>	Reextraction
<b>CCV</b>	Continuing Calibration Verification	<b>TIC</b>	Tentatively Identified Compound
<b>CCB</b>	Continuing Calibration Blank	<b>RT</b>	Retention Time
<b>RLC</b>	Reporting Limit Check	<b>CF</b>	Calibration Factor

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**



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# DATES REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24060039-001A	SB-01	5/30/2024 10:10:00 AM	Solid	Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:24:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 8:41:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-002A	SB-02	5/30/2024 10:20:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:32:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:29:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:01:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-003A	SB-03	5/30/2024 10:30:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:35:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:04:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-004A	SB-04	5/30/2024 10:40:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:38:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:08:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-005A	SB-05	5/30/2024 10:45:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:40:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:11:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-006A	SB-06	5/30/2024 10:50:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:43:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:15:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-007A	SB-07	5/30/2024 11:00:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:46:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:18:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-008A	SB-08	5/30/2024 11:05:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:49:00 AM

Original



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# DATES REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24060039-008A	SB-08	5/30/2024 11:05:00 AM	Solid	Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:21:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:32:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-009A	SB-09	5/30/2024 11:15:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 10:51:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:25:00 AM
				Percent Moisture by SM2540Mod			6/3/2024 4:10:00 PM
24060039-010A	SB-10	5/30/2024 11:25:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:00:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:36:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:28:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-011A	SB-11	5/30/2024 11:30:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:03:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:32:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:39:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-012A	SB-12	5/30/2024 11:40:00 AM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:05:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:42:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:45:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-013A	SB-13	5/30/2024 12:05:00 PM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:08:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:49:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-014A	SB-14	5/30/2024 12:10:00 PM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:11:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:52:00 AM

Original



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# DATES REPORT

WO#: **24060039**  
**06-Jun-24**

**Client:** CT Consultants  
**Project:** 9 Clark Street

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24060039-014A	SB-14	5/30/2024 12:10:00 PM	Solid	Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-015A	SB-15	5/30/2024 12:15:00 PM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:14:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:55:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-016A	SB-16	5/30/2024 12:25:00 PM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:17:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 9:59:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-017A	SB-17	5/30/2024 12:45:00 PM		Mercury Analysis (7471)		6/4/2024 10:40:00 AM	6/5/2024 11:19:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:02:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:46:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-018A	SB-18	5/30/2024 12:55:00 PM		Mercury Analysis (7471)		6/4/2024 9:50:00 AM	6/4/2024 11:40:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:06:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:49:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-019A	SB-19	5/30/2024 1:00:00 PM		Mercury Analysis (7471)		6/4/2024 9:50:00 AM	6/4/2024 11:43:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:09:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:53:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM
24060039-020A	SB-20	5/30/2024		Mercury Analysis (7471)		6/4/2024 9:50:00 AM	6/4/2024 11:46:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:56:00 AM
				Metals Analysis (6010D)		6/4/2024 10:35:00 AM	6/6/2024 10:12:00 AM
				Percent Moisture by SM2540Mod			6/4/2024 3:40:00 PM

Original



### Analysis Request / Chain of Custody

Refer to Terms and Conditions at [www.settek.com](http://www.settek.com)

SET WO NO.: **24060039**  
For Summit Environmental Technologies, Inc. use only

Client Name		Project Identification	
Client Street Address		Project Street Address 9 Clark ST	
City	State	City	State
	Zip	Conneaut	OH 44030
Client Phone		Report To Jonathan Adams	
Contact Person		PO #	Quote Number
Client Email Address		PWS ID	Facility ID
Sampled By (Print Name and Provide Signature) Print: <i>Jon Adams</i> Sign: <i>Jon M. Adams</i>		Reporting/Accreditation Requirements: <input type="checkbox"/> Ohio VAP <input type="checkbox"/> Ohio EPA Pb, Cu <input type="checkbox"/> Drinking Water Compliance <input type="checkbox"/> Other Compliance (List State/ Program):	
For DW only, results to be reported to state by lab? If yes, lab fee may apply: <input type="checkbox"/> Y <input type="checkbox"/> N			

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water	Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Number of Containers per Sample	Analytical Parameters and Methods Requested	For DW Only: Special Compliance or Routine (S/R)
	SB-01		05/30	1010	X		S	7	2	RCRA 8 Metals	
	SB-02			1020	X						
	SB-03			1030	X						
	SB-04			1040	X						
	SB-05			1045	X						
	SB-06			1050	X						
	SB-07			1100	X						
	SB-08			1105	X						
	SB-09			1115	X						
	SB-10			1125	X						

Relinquished by:	Date	Time	Received by:	Date	Time	Notes / Comments:
<i>Jon M. Adams</i>	05/31/24	0815	<i>DAVID YOUNG</i>	5/31/24	0815	
<i>DAVID YOUNG</i>	5/31/24	0925				

Received at Summit by:	Date	Time	Carrier	Rush Requested: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Must be approved by Lab Manager	Received Temp.: 1.6 °C	Cooler Seals? <input type="checkbox"/> PRESENT <input type="checkbox"/> NOT PRESENT <input checked="" type="checkbox"/> N/A	Cooler? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Ice Present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> MELTED
<i>[Signature]</i>	5/31/24	0925	SET					

1.6-0.0=



**Analysis Request / Chain of Custody**

Refer to Terms and Conditions at [www.settek.com](http://www.settek.com)

SET WO NO.:	For Summit Environmental Technologies, Inc. use only
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Client Name		Project Identification		Grab Sample Composite Sample Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Analytical Parameters and Methods Requested  RCRA 8 Metals	For DW Only: Special Compliance or Routine (S/R)		
Client Street Address		Project Street Address 9 Clark St						
City	State	Zip	City				State	Zip
Client Phone		Report To Jonathan Adams						
Contact Person		PO # 241249	Quote Number					
Client Email Address		PWS ID	Facility ID					
Sampled By (Print Name and Provide Signature) Print: Jon Adams Sign: Jon M. Adams		Reporting/Accreditation Requirements: <input type="checkbox"/> Ohio VAP <input type="checkbox"/> Ohio EPA Pb, Cu <input type="checkbox"/> Drinking Water Compliance <input type="checkbox"/> Other Compliance (List State/ Program):						
For DW only, results to be reported to state by lab? If yes, lab fee may apply: <input type="checkbox"/> Y <input type="checkbox"/> N								

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix	Preservation	Number of Containers per Sample	RCRA 8 Metals	For DW Only: Special Compliance or Routine (S/R)
	SB-11		05/30	1130	X		S	7	1	X	
	SB-12			1140	X					X	
	SB-13			1205	X					X	
	SB-14			1210	X					X	
	SB-15			1215	X					X	
	SB-16			1225	X					X	
	SB-17			1245	X					X	
	SB-18			1255	X					X	
	SB-19			1300	X					X	
	SB-20				X					X	

Relinquished by:	Date	Time	Received by:	Date	Time	Notes / Comments:
Jon M. Adams	05/31/24	0815	David Yon	5/31/24	0815	
David Yon	5/31/24	0925				

Received at Summit by:	Date	Time	Carrier	Rush Requested: _____ Day(s) Must be approved by Lab Manager	Received Temp.: _____ °C	Sufficient volume provided to run QC? <input type="checkbox"/> YES <input type="checkbox"/> NO	Cooler? <input type="checkbox"/> YES <input type="checkbox"/> NO
						Cooler Seals? <input type="checkbox"/> PRESENT <input type="checkbox"/> NOT PRESENT <input type="checkbox"/> N/A	Ice Present? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> MELTED



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# Sample Log-In Check List

Client Name: CTC-OH-44060      Work Order Number: 24060039      RcptNo: 1

Logged by:	Christina N. Gemma	5/31/2024 9:25:00 AM	
Completed By:	Christina N. Gemma	6/3/2024 10:46:31 AM	
Reviewed By:	Holly Florea	6/4/2024 7:16:57 AM	

**Chain of Custody**

1. Is Chain of Custody complete?      Yes       No       Not Present   
 2. How was the sample delivered?      Summit

**Log In**

3. Coolers are present?      Yes       No       NA   
 4. Shipping container/cooler in good condition?      Yes       No   
 Custody seals intact on shipping container/cooler?      Yes       No       Not Present   
 No.      Seal Date:      Signed By:  
 5. Was an attempt made to cool the samples?      Yes       No       NA   
 6. Were all samples received at a temperature of >0° C to 6.0°C      Yes       No       NA   
 7. Sample(s) in proper container(s)?      Yes       No   
 8. Sufficient sample volume for indicated test(s)?      Yes       No   
 9. Are samples (except VOA and ONG) properly preserved?      Yes       No   
 10. Was preservative added to bottles?      Yes       No       NA   
 11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm?      Yes       No       No VOA Vials   
 12. Were any sample containers received broken?      Yes       No   
 13. Does paperwork match bottle labels?      Yes       No   
 (Note discrepancies on chain of custody)  
 14. Are matrices correctly identified on Chain of Custody?      Yes       No   
 15. Is it clear what analyses were requested?      Yes       No   
 16. Were all holding times able to be met?      Yes       No   
 (If no, notify customer for authorization.)

**Special Handling (if applicable)**

17. Was client notified of all discrepancies with this order?      Yes       No       NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

18. Additional remarks:  
 Client information not recorded on COC.

**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Not Present			