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Cypress Creek Renewables – High Top Solar Project
Draft Geotechnical Report

ANS Geo, Inc. is pleased to provide this Draft Geotechnical Report (Report) to Cypress Creek Renewables (CCR) to summarize the results of our geotechnical field investigation in support of the proposed High Top Solar project located in Moxee, Washington. To guide the design and construction of the proposed solar facility, ANS Geo developed and implemented a geotechnical investigation program which encompassed a brief desktop study of local geologic conditions, soil borings, test pit excavations, field electrical resistivity testing, preliminary environmental due diligence sampling, laboratory thermal resistivity testing, and laboratory soil material testing.

It is expected that the successful EPC selected to perform final design and construction will perform supplemental investigations and studies, including pile load testing, to confirm the information presented and develop more detailed information which may be required for the final design.

1. Methodology

1.1 Soil Borings

ANS Geo retained Elite Drilling Services (EDS) of Denver, Colorado to advance 13 soil borings completed at select locations across the project site between November 30 and December 7, 2020. The soil boring locations are depicted in the Investigation Location Plan, provided as **Attachment A**. It should be noted that the original scope of work included 26 soil borings, however; shallow rock was encountered throughout the site. Therefore, during our investigation program it was agreed between ANS Geo and CCR that test pit excavations would be better suited to observe geologic conditions in replacement of soil borings at several locations. As such, soil boring and test pit IDs may appear interchanged and/or missing (ie. TP-01, TP-02, B-03, TP-04, etc.).

Each soil boring was advanced to practical refusal, generally encountered between 1.2 and 7.5 feet below ground surface (BGS). A track-mounted Mobile B-57 drill rig was used to collect soil samples using the Standard Penetration Test (SPT) Method through hollow-stem augers in accordance with ASTM Standard D1586. Soil samples were collected continuously to the termination depth in each boring. Soil borings, proposed by ANS Geo and confirmed by Cypress Creek review, were distributed to provide site coverage at locations throughout the project's array areas. One boring was situated within the proposed substation footprint (B-SS-1). At this substation location (B-SS-1), rock coring was conducted using a wireline setup in accordance with ASTM D2113 to confirm the presence and quality of bedrock. All soil borings were overseen and logged by an ANS Geo representative under the direction of a Professional Engineer licensed in the State of Washington. Typed soil boring logs are presented within **Attachment B**.

At select soil boring locations, auger cuttings were collected within four (4) feet of grade with the purpose of obtaining bulk soil samples for laboratory California Bearing Ratio (CBR), thermal resistivity testing (TRT), and corrosivity testing. Upon completion, each borehole was backfilled to its existing grade with soil cuttings.

1.2 Test Pits

As discussed in the previous section, 13 test pits were excavated by EDS at select locations across the project site between December 3 and 4, 2020. The test pit locations are depicted in the Investigation Location Plan, provided as **Attachment A**.

All test pits were excavated using a John Deere 26G excavator and were overseen and documented by a ANS Geo geotechnical representative under the direction of a Professional Engineer licensed in the State of Washington. Soil strata changes, soil classification, and excavation depths were documented during each test pit excavation and are presented within the test pit logs provided as **Attachment C**. Test pits were all excavated to bedrock which was encountered between 2.0 and 5.2 feet below grade. Similar to soil boring locations, bulk samples were collected from select test pits for laboratory testing. Upon completion, each test pit excavation was backfilled with native soil cuttings, bucket-tamped, and tracked over with the excavator to minimize any post-excavation settlement.

1.3 Electrical Resistivity Testing

As part of our field investigation program, ANS Geo performed field Electrical Resistivity Tomography (ERT) testing on October 28 and 29, 2020. Testing was conducted at 12 locations within the proposed array area(s) and one (1) location within the proposed substation footprint. In-situ soil resistivity measurements were obtained by utilizing the Wenner 4-Pin Method in accordance with ASTM G57 and IEEE Standard 80.

Two (2) mutually perpendicular traverses were collected at each location utilizing “a”-spacings of 1, 1.5, 2, 3, 4.5, 7, 10, 15, 22.5, 35, 50, and 75 feet within the array areas, with additional 100 and 150-foot spacings at the substation location. Test results are presented as **Attachment D**.

2. Geology and Subsurface Conditions

ANS Geo conducted a brief, desktop review of surficial and bedrock geology maps and reports made available by the United States Geological Survey (USGS) prior to conducting our field investigation. The available mapping indicates that the site lies within Quaternary nonmarine deposits. This particular surficial unit includes eolian deposits consisting of light brown, homogenous loessial silt with minor gravel, boulders, and sand inclusions.

Bedrock geology of the area consists of Miocene volcanic rocks Unit from the Middle Miocene age. The unit is generally known as Yakima ballast, and locally interchanged with Columbia River Basalts. The bedrock is described as dark-gray to black, dense, aphanitic basalt flows; commonly columnar jointed Dark-gray to black, dense aphanitic basalt flows; commonly columnar jointed, less commonly irregularly and platy jointed; some flows vesicular, grading to scoriaceous; includes minor pillow lava, palagonite beds, and interbedded soil profiles and sedimentary beds; contains diatomite beds locally. Maximum thickness in south-central Washington may be in excess of 10,000 feet; much thinner in western Washington, where flows are mostly associated with marine sedimentary rocks. Includes acidic and intermediate volcanic rocks in northern Cascade Mountains.The mapped surficial unit is mostly consistent with the findings of our field investigations.

ANS Geo has provided the generalized subsurface conditions within Table 1 based upon the observations made during our geotechnical investigation for the High Top Solar project. Soil boring and test pit logs have been provided as **Attachments B** and **C**, respectively, and should be reviewed for specific soil condition observations.

Table 1 – Generalized Subsurface Profile

Average Depth (ft)	Material	Average Consistency	Description
0' – 0.5'	Topsoil	-	Approximately four (4) to 12 inches of topsoil existed at the surface throughout most of the project area.
0.5 – 3'	Silt (ML)	Stiff	Light brown silt with varying amounts of sand, gravel, and clay were encountered beneath the topsoil layer in most locations. This material was noted to be very dry and predominantly nonplastic. Gravels and rock fragments were frequently encountered near the bottom of this stratum.
3' – 4'	Gravel / Cobbles (GM)	Very Dense	Dense silty gravel and/or cobbles were frequently encountered beneath the silt layer.
4' +	Basalt	-	Strong, slightly weathered basalt bedrock was encountered or inferred at all investigation locations beginning between one (1) and 7.5 feet below grade.

3. Geotechnical Laboratory Results

3.1 Soil Index Testing

Representative soil samples were collected during our investigation and submitted to ANS's accredited materials testing laboratory. A summary of the index laboratory test results is provided within Table 2. As-received laboratory test results are included within **Attachment E**.

Table 2 – Soil Index Testing Summary

Location ID	Sample ID	Depth (feet)	% Gravel	% Sand	% Fines		% Moisture
					% Silt	% Clay	
TP-01	G-1	1 – 3	0	21.9	78.1		5.2
B-09	S-1	0 – 2	20.3	29.7	50.0		6.0
B-11	S-2	2 – 4	20.3	29.0	50.7		6.8
B-14	S-1	0 – 2	0.6	21.2	78.2		4.7
B-16	S-1	0 – 2	0	19.4	40.6	40.0	4.6
B-16	G-1	1 – 3	0	34.9	65.1		5.9
TP-18	G-1	1 – 3	0	30.3	69.7		-
B-23	S-4	6 – 8	57.4	25.5	17.1		6.1
B-SS-1	S-1	0 – 2	0	21.0	40.9	38.1	7.5

3.2 Thermal Resistivity Testing

ANS Geo collected bulk samples from six (6) investigation location between one (1) and four (4) feet below grade for laboratory testing of Thermal Resistivity. Soils were collected in a five-gallon bucket and delivered to ANS Consultants' accredited laboratory for testing. The soil was compacted to 85 percent of its Standard Proctor Density in accordance with ASTM D698, and Thermal Resistivity Testing was conducted in accordance with IEEE Standard 442-2017. Results of the thermal testing are summarized within Table 3. Complete, as-received results have been provided within **Attachment E**.

Table 3 – Thermal Resistivity Testing Summary

Location ID	Material Type	Thermal Resistivity Values at Various Moisture Contents					Received Moisture Content (%)	Re-Molded Dry Density (lb/ft^3)
		% water	% water	% water	% water	% water		
		(°C-cm/W)	(°C-cm/W)	(°C-cm/W)	(°C-cm/W)	(°C-cm/W)		
TP-02 (1' – 2.5')	Silt with cobbles (ML)	0	4.0	8.0	12.0	15.5	3.8	92.8
		746	**298**	**177**	**136**	**120**		
TP-06 (1' – 3')	Silt with cobbles (ML)	0	4.0	8.0	12.0	16.7	3.5	90.4
		752	**305**	**184**	**146**	**129**		
B-11 (2' – 4')	Silt, some gravel (ML)	0	3.5	7.0	10.5	14.9	6.5	95.4
		738	**382**	**228**	**190**	**181**		
TP-18 (1' – 2.5')	Silt, some sand (ML)	0	3.0	6.0	9.0	11.5	4.3	93.8
		726	**271**	**148**	**110**	**96**		
TP-20 (1' – 3')	Silt, little sand (ML)	0	4.0	8.0	12.0	16.3	5.6	91.5
		652	**229**	**122**	**95**	**79**		
TP-21 (1' – 3')	Silt, little sand (ML)	0	4.0	8.0	12.0	16.4	6.8	89.8
		784	**352**	**215**	**172**	**158**		

3.3 Corrosivity Testing

ANS Geo collected additional samples from one (1) to three (3) feet below grade for corrosivity testing. The results of the testing, completed by ANS Consultants, have been summarized within Table 4 and are detailed within **Attachment E**.

Table 4 – Corrosivity Testing Summary

Location ID	pH	Sulfate (mg/kg)	Chloride (mg/kg)	Soil Box (Calculated Resistivity) (Ω/cm)	Redox Potential (mV)
TP-02	6.33	38	30	11,000	204
B-03	6.71	3	35	3,000	217
TP-06	6.75	72	170	5,000	213
B-09	6.91	3	40	9,000	202
B-14	6.65	7	25	7,600	194
B-15	7,00	17	30	8,500	200
B-17	6.85	11	30	8,900	205
TP-18	6.77	28	40	8,000	196
B-19	6.96	17	35	11,000	153
TP-21	6.82	24	80	8,500	208
B-23	7.01	27	45	9,000	186
B-25	7.12	9	40	9,500	193

3.4 California Bearing Ratio

ANS Geo collected an additional sample at three (3) locations from one (1) to three (3) feet below grade for testing of California Bearing Ratio (CBR) in accordance with ASTM D1883. The results of the testing, completed by ANS Consultants, have been summarized within Table 5 and are detailed within **Attachment E**.

Table 5 – California Bearing Ratio Summary

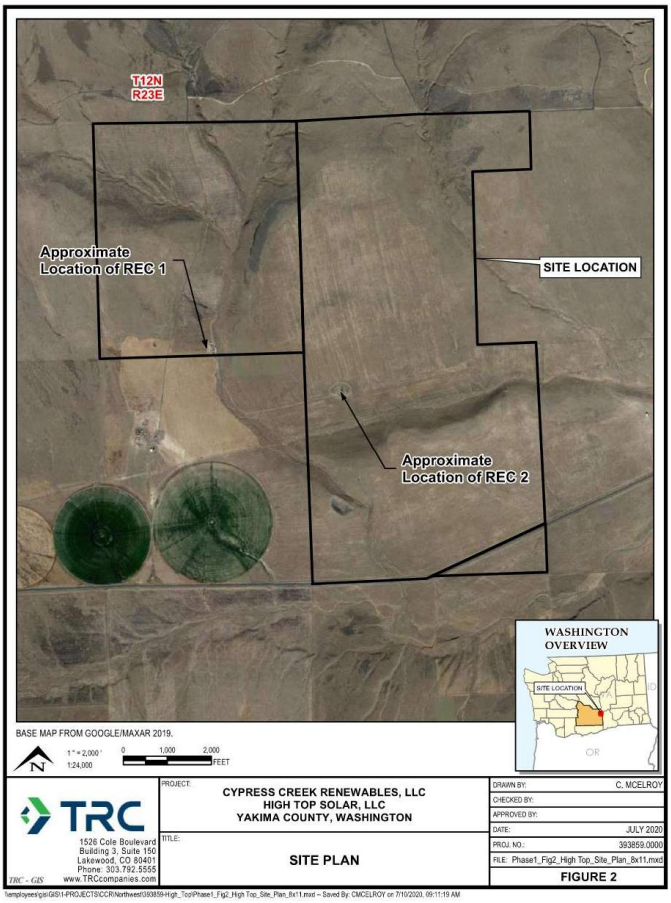
Location ID	CBR Ratio (%)
TP-01	2.6
B-16	1.8
TP-20	2.6

4. Environmental Sampling

As part of our work, we were notified by CCR that State of Washington Energy Facility Site Evaluation Council (ESFEC) may require a soil contamination report for the project facility. The purpose of this would be to evaluate if there are any areas of subsurface contamination within the project area (oil stains, contamination tests, abandoned equipment, etc.), if these impacted areas of soil and/or groundwater will be disturbed during construction and operations, and how the contamination will be mitigated.

At the start of our work, ANS Geo was provided a Phase I Environmental Site Assessment (ESA) dated September 25, 2020 by TRC. The Phase I ESA identified two "recognized environmental conditions" ("RECs") within the project site boundaries. The locations of each REC are provided in Figure 1, which is extracted from TRC's Phase I assessment.

Figure 1 – Location of RECs



4.1 Description of RECs

Both of the RECs appear to be remnants of debris left behind from former agricultural use, and are described in further detail by TRC as follows:

- ***REC 1:*** *During the Site Reconnaissance, in the northwest parcel of the Site, to the east of the north-south oriented access roadway, TRC observed small patches of apparent oil-stained soil and numerous unlabeled containers (5-gallon buckets, 55-gallon drums, and other smaller containers), both partially full and empty. A few were placed on wooden pallets; however, others did not have any secondary containment. In this location, TRC also observed storage tanks, including one tank that was cut open and empty, rubber tires, piles of drilling mud, household items, as well as several vehicles and abandoned equipment, including a water truck and drilling rig. TRC noted a general petroleum-like odor in this area. TRC considers the number of containers, lack of secondary containment for these containers, lack of labels indicating the contents of many of these containers, and oil-stained soil to represent a REC for the Site.*

- ***REC 2****: During the Site Reconnaissance, near the center of the Site, TRC observed another drilling rig, an abandoned (engine removed) vehicle-mounted crane, three (3) 55-gallon drums, apparent oil-stained soil, and miscellaneous materials and trash. Two (2) of the drums were unlabeled and tipped over, adjacent to approximately 50-square feet of apparent oil-stained soil. TRC considers the tipped over 55-gallon drums, lack of labels indicating the contents of the drums, and oil-stained soil to represent a REC for the Site.*

4.2 Evaluation Methodology

Recognizing the two REC areas, ANS Geo proposed and conducted a sampling and evaluation methodology during our investigation program as follows:

1. In each targeted REC area (REC-1 and REC-2), advance one soil boring to a depth of 10 feet.
2. Perform continuous sampling throughout the boring depth, and utilize a MiniRae 3000 photo-ionization detector (PID) to screen each depth for any indications of volatile organic content readings.
3. Visually screen soil samples for staining, discoloration, foreign debris (man-made fill), as well as note any odors.
4. Separate samples at discrete intervals (typically two-foot intervals [0-2', 2-4', etc.]) and preserve each sample in glass jars.
5. Using the PID equipment and observations, target the highest reading for environmental testing. If none of the samples were observed to have a reading or visual/odor marker, take a near-surface sample (0-2 foot depth) and perform a full environmental test suite for volatile organics, semi-volatile organics (BTEX, MTBE, typical gas/diesel range organics), and metals.
6. To evaluate background conditions (outside of the "REC" areas), a second, grab sample was taken outside the ESA-delineated area at/near the surface. This sample also had a full environmental test to create the "background" sample.
7. In between samples, and after finishing each boring, de-contaminate sampling equipment using Alconox.

Using this evaluation method and procedure, ANS Geo collected several samples for environmental analyses as part of our investigation program. The targeted area samples (REC-1 and REC-2) were collected using soil borings, while background grab samples were collected at TP-01 and TP-24 to provide "background" levels. These select samples were submitted to Cascade Analytical, a USEPA-accredited environmental laboratory, for testing in accordance with their respective methods and standards. A summary of the compounds detected, and their concentration, is presented within Table 6. Complete environmental sampling results are provided within **Attachment F**.

Table 6 – Summary of Environmental Exceedances

Compounds	REC-1A (0'-1')	REC-1B (0'-1')	REC-2A (0'-1')	REC-2B (0'-1')	TP-01 (1'-2')	TP-24 (1'-2')
Arsenic	-	-	**4.7**	**4.8**	**6.2**	**4.8**
Cadmium	-	-	-	0.15 J	0.11 J	0.14 J
Chromium	-	-	**12**	**14**	**26**	**18**
Lead	-	-	**11**	**10**	**9.0**	**8.4**
Mercury	-	-	0.0071 J	0.021 J	**0.022**	0.019 J
#2 Diesel	-	-	26 J	-	-	-
Gasoline	**100**	9.0 J	-	-	-	-
Motor Oil	-	-	**220**	**100**	29 J	33 J
Bis(2-ethylhexyl) phthalate	**18,000**	-	240 J	-	-	-
Di-n-octyl phthalate	-	-	-	27 J	-	-
m-Xylene & p-Xylene	-	-	0.77 J	1.8 J	-	-
Methylene Chloride	-	-	-	14 J	-	-
Naphthalene	-	-	8.7 J	**13**	41 B	9.1 J B
Pyrene	**1,500**	-	-	-	-	-
Toluene	-	-	1.9 J	6.5 J	-	-

Table Notes:
- Only concentrations above their respective method detection limits are summarized.
- Concentrations in bold text are greater than or equal to their respective reporting limits.
- All concentrations are reported in mg/Kg (parts per billion).
- J = approximate value
- B = compound detected in both blank and sample

4.3 Discussion of Environmental Considerations

ANS Geo notes that the compounds identified and observed include non-significant concentrations of gasoline and/or oil-related products in addition to low levels of metals. These exceedances are generally typical of industrial farming activities, largely localized and contained to areas of current or former equipment, drum, or material storage. At the time of our investigation program, and as indicated in TRC's July 2020 site visit for the Phase 1 ESA, these compounds were evident with minor staining in some locations and appeared to be localized within the near-surface (0-2 foot depth) soils. Based on our field observations, it is our opinion that these impacts do not reach deeper soil horizons due to the shallow thickness of overburden soil before encountering hard, massive basalt rock. In addition, groundwater was not observed in any of our boreholes or test pits during our subsurface investigation; therefore, impacts to groundwater are not expected.

Based on the results of our investigation, it is our opinion that the shallow, localized impacted soils can be remediated using a simple excavate and re-place technique. If development is proposed in either area where REC-1 and REC-2 exist, we recommend that the soil within a ten-foot radial offset of historic, remnant drums or buckets be excavated to a depth of three feet below grade, then staged on-site prior to final off-site managing and proper disposal. A grab sample should be taken at the bottom of the excavation at each of the discrete, separate excavation areas to test for the full suite of environmental contaminants, including volatile organics, semi-volatile organics (BTEX, MTBE, typical gas/diesel range organics), and metals. If the environmental results show de minimum compounds and level of impact, the excavation can be stopped at this depth. If results show similar remnants of gasoline and/or oil-related products in addition to low levels of metals, the excavation may be extended an additional one-foot (or to top of rock, if encountered), and the sampling and evaluation procedure repeated.

It is recommended that an impermeable liner or tarp be placed on the ground surface to act as containment for the excavated and staged soil. The liner should be draped over and surrounded by hay bale or similar side barriers to provide horizontal containment. The material should be covered using similar tarp or liner, and the top liner secured to ground, to prevent precipitation from wetting the excavated materials.

Once the material is excavated and properly contained/staged, a composite, grab sample of the stockpile should be collected and tested for the full suite of environmental contaminants. The sample results will allow for proper determination of the end-disposal or environmental resource recovery facility which can accept lightly-impacted soil material.

5. Seismic Site Classification

Based on the observations recorded within our subsurface investigation program and utilizing the N-Value method as prescribed in Chapter 20 of ASCE 7-16, Site Class C, at minimum, can be assumed as the average condition across the project site.

The following Site Class C seismic ground motion values were obtained from the USGS Seismic Hazard Maps, referenced in ASCE 7-16 Standard, for this site:

- 0.2 second spectral response acceleration, S_S= 0.425 g
- 1 second spectral response acceleration, S_1= 0.173 g
- Maximum spectral acceleration for short periods, S_{MS}= 0.552 g
- Maximum spectral acceleration for a 1-second period, S_{M1}= 0.260 g
- 5% damped design spectral acceleration at short periods, S_{DS}= 0.368 g
- 5% damped design spectral acceleration at 1-second period, S_{D1}= 0.173 g

5.1 Preliminary Seismic Evaluation

The designated seismic site class is anticipated based on results from our limited investigation program and using select areas of the site which have been investigated by ANS Geo. Backup data for the site class determination is provided as **Attachment G**. Based on our observation of subsurface conditions, estimated Site Class rating, and review of USGS's 2018 National Seismic Hazard Map, ANS Geo concludes that there is a low to moderate risk of significant seismic activity which may impact the proposed solar facility.

6. Foundation Considerations

ANS Geo anticipates that, as typical with solar farm construction, embedded posts, such as W6x9 H-piles, will be used to support the proposed solar panels. Conventional shallow foundations such as sonotubes, spread footings, or similar systems may also be utilized for equipment pads and associated support structures.

6.1 Corrosion Considerations

Given the soil's measured acidity, sulfate and chloride concentrations, resistivity, and redox potential summarized in **Section 3.3** (Table 4), in consideration with the soil and moisture conditions observed, the influence of corrosion attack on embedded steel piles is considered to be generally mild to moderate.

6.2 Frost & Adfreeze Considerations

Within Yakima County, Washington, frost depth is mapped to exist at approximately 18 inches below grade. As such, ANS Geo recommends that all structural foundations be founded at 18 inches (1.5 feet) below grade or deeper to ensure adequate protection from frost conditions which may jeopardize the integrity of subgrade soils and associated substructure.

Given the location of the project and soils encountered, the potential for frost heave against post foundations should be considered. Fine-grained soils, or granular soils with greater than 10 percent fine-grained content are frost-susceptible due to the inability of entrapped moisture from infiltrating or evaporating prior to freezing.

Trapped moisture will begin to create ice lenses, which will grip the steel posts or embedded structures, followed by ice-jacking due to frost heave. The phenomenon is more commonly referred to as "adfreeze stress", which can be considered as an external, upward force applied to the post. The magnitude of the upward force will depend on the depth/thickness of the frost zone, the interface bond stress between embedded structure/material and the surrounding area, and the surface area of the structure/material in contact with this bond stress. As predominantly silty soils were observed near grade, ANS Geo recommends that an unfactored adfreeze (uplift) stress of 1,500 pounds per square foot (10.4 psi) be considered for the upper 1.5 feet of overburden soil during panel foundation sizing and design.

6.3 Recommended Soil Parameters

Based on our interpretation of the subsurface conditions observed within our limited investigation program, and the laboratory testing results, ANS Geo recommends that the soil parameters, as depicted within Table 7, be considered for preliminary design purposes.

Table 7 – Recommended Preliminary Soil Parameters

Depth	Material	Total Unit Weight	Internal Friction Angle	Cohesion	Soil Modulus (k)	Soil Strain (E_{50})	Allowable Bearing Capacity	Allowable Side Resistance
0' – 1.5'	Topsoil / Upper Silt	95 lb/ft^3	20°	0 lb/ft^2	20 lb/in^3	-	300 lb/ft^2	0 lb/ft^2
1.5' – 3'	Silt (ML)	105 lb/ft^3	31°	0 lb/ft^2	100 lb/in^3	-	2,000 lb/ft^2	50 lb/ft^2
3' – 4'	Gravel (GM)	120 lb/ft^3	35°	0 lb/ft^2	250 lb/in^3	-	4,000 lb/ft^2	100 lb/ft^2
4' +	Basalt (bedrock)	140 lb/ft^3	37°	0 lb/ft^2	500 lb/in^3	0.001	6,000 lb/ft^2	400 lb/ft^2

ANS Geo recommends that allowable side resistance within the upper 1.5 feet be neglected due to anticipated surficial disturbance, and adfreeze stresses as noted in **Section 6.2** should be considered. These allowable capacities and resistances provided are based on a serviceability limit of one-inch of maximum deflection/settlement. It should also be noted that these parameters have been established based on our engineering judgment. A detailed investigation program, including pile load testing, should be performed to confirm and calibrate these values prior to construction.

7. Construction Recommendations

7.1 Excavation

Based on the encountered subsurface conditions and anticipated foundation configurations, some excavations may extend deeper than four feet below grade. As such, excavations deeper than four feet should be shored or sloped and benched, in accordance with OSHA regulations, to ensure safe working conditions within the excavations. For benching purposes, overburden soils may be considered as "Type C" material and should be sloped no steeper than 1.5H:1V (horizontal to vertical). Intact basalt bedrock, if deemed stable, may be vertically cut within shallow temporary excavations and trenches. OSHA soil classifications should be field-determined by the contractor's "competent person" prior to excavation. Any proposed shoring systems should be designed by the contractor's "competent person", be certified by a Professional Engineer licensed in the State of Washington, and should be submitted to the engineer for review.

The contractor should expect cobbles, boulders, and bedrock within shallow excavations and earthwork activities. ANS Geo notes that pre-drilling for post locations to clear cobbles, boulders, and bedrock should be anticipated and is further discussed in **Section 7.6**.

7.2 Dewatering

ANS Geo did not encounter groundwater at the time of our investigation program. Notwithstanding, the contractor should be prepared to manage any perched water and/or infiltrated stormwater as needed using localized pump-and-sump or similar techniques to allow for concrete foundation construction in-the-dry. Water discharge should be managed in compliance with applicable state and local regulations. The contractor should be sure to grade the surface as necessary to divert stormwater away from open excavation to the extent possible.

7.3 Subgrade Preparation

Prior to the installation of shallow concrete foundations, ANS Geo recommends overexcavating the subgrade by at least four (4) inches, lining the exposed material with a geotextile separation fabric, and bringing the subgrade back up to the design foundation elevation with compacted structural fill as specified within Table 8. Native material beneath the separation fabric should be inspected for unsatisfactory conditions such as standing water, frozen soil, organics, or deleterious materials. Should any unsatisfactory conditions exist within the native subgrade, the excavation should be undercut an additional four inches (8 total inches beneath proposed foundation depth) prior to placement of the geotextile separation fabric.

Table 8 – Recommended Gradation of Structural Fill

Sieve Size	Percent Passing
3-inch	100
1 ½-inch	60 – 100
No. 4	30 – 60
No. 200	0 – 10

Structural fill material should be placed in loose lifts not exceeding eight (8) inches in height and be compacted to at least 95 percent of its Modified Proctor Density in accordance with ASTM D1557.

7.4 Backfilling and Re-use of Native Soils

ANS Geo notes that native fine-grained soils (silts) on site will likely be difficult to handle, place, and compact without proper moisture conditioning and protection. ANS Geo recommends the following measures be considered to reduce the adverse impacts of moisture-sensitive soils:

- Positive measure should be implemented and maintained to intercept and direct surface water away from moisture-sensitive subgrade surfaces.
- Subgrade surfaces should be sloped and, as appropriate, seal-rolled to facilitate proper drainage. Surfaces should be properly prepared in anticipation of inclement weather. Moisture should not be allowed to collect on subgrade surfaces.
- To the extent practical, the limits of exposed subgrade soils should be minimized.
- Construction traffic should be limited to properly constructed haul roads.
- Disturbed soils should be removed and replaced with compacted controlled fill material.
- In place moisture contents should be maintained with two percent wet/dry of the optimum moisture content as determined by the Modified Proctor Test (ASTM D1557).

These soils may be re-used across the project area for fill in landscaped areas; however, it should not be used under or above foundations or load-bearing structures where typically imported structural fill is used. Native material used as backfill for cable trenches should be handled and placed at a moisture content at or above its optimum value to ensure representative thermal properties are maintained.

In areas around and above installed foundations, large utilities, and other buried site features, ANS Geo recommends importing a clean granular material with less than 15 percent fine-grained content for use as general backfill. General backfill material should not be used beneath any load-bearing structures and should

be placed in loose lift thicknesses not exceeding 12 inches and be compacted to at least 95 percent of its Modified Proctor Density (ASTM D1557). Soil used as backfill should not be handled when frozen and should be free of excessive moisture, organics, and deleterious material.

In fill areas beneath foundations, access roads, and load-bearing structures, ANS Geo recommends structural fill as described in **Section 7.3** and Table 8.

7.5 Access Roads

ANS Geo understands that an access road will likely be required to enter and exit the project site as well as provide access to the equipment pad locations. It is also our understanding that this access road will likely be unpaved, to accommodate occasional light vehicular traffic such as utility pickup truck or similar vehicle. As such, ANS Geo recommends that access roads be constructed with at least six (6) inches of crushed stone as specified within Table 9.

Table 9 – Recommended Gradation of Crushed Stone

Sieve Size	Percent Passing
1 ½-inch	100
¾-inch	55 – 90
No. 4	25 – 50
No. 50	5 – 20
No. 200	3 – 10

Prior to roadway construction, the subgrade should be stripped of vegetation and topsoil, and be proof-rolled with at least four (4) roundtrip passes of a smooth-drum roller with a minimum operating weight of eight (8) tons. The prepared subgrade should be confirmed to maintain a minimum CBR value of 10. Although not anticipated, if required, additional stabilization may be obtained through chemical treatment of the subgrade including introduction of lime or cement. Crushed stone should be placed in loose lifts not exceeding eight (8) inches in height and be compacted to at least 95 percent of its Modified Proctor Density (ASTM D1557).

7.6 Pile Drivability

ANS Geo anticipates that, as typical with solar farm construction, solar panels will be supported by steel H-Piles (wide-flanged sections) driven to approximately 8 to 10 feet below grade. It is ANS Geo's professional opinion that the parameters provided in **Section 6.3** may be used to preliminarily size the proposed piles, however, piles should be axially and laterally load tested to confirm their capacities at representative locations prior to final design and construction. These steel piles are typically installed via direct-push, vibration, and/or percussive hammer methods.

Based on our observations within our investigation program, **we expect that regular obstructions or refusals associated with bedrock, cobbles, and/or boulders will be encountered as shallow as two feet below grade.** As such, ANS Geo recommends that the contractor pre-drill all proposed post locations. We recommend that pre-drilled holes be completed to a diameter slightly smaller than the diagonal dimension of the proposed pile section to ensure a tight fit once the pile is driven to its targeted depth. For example, a six (6)-inch diameter hole may be drilled and utilized for W6x9 section (approx. 7.1-inch diagonal measurement). The contractor should be aware, however, that heavier sections (ie. W6x12 or W6x15) may have limiting "bending" capacity in its flanges, and therefore require a hole of a slightly larger proportion.

8. Limitations

ANS Geo notes that the findings and recommendations presented within this Draft Geotechnical Report are based on our limited investigation program conducted in October through December 2020 and our engineering judgment. A load testing program should be completed prior to conducting a detailed post foundation design. Should the scope of the project or proposed site layout change, ANS Geo should be given the opportunity to review the applicability of the collected information and modify our recommendations, as needed.

We sincerely appreciate the opportunity to support this project, and please feel free to contact us should you have any questions regarding the findings of this Report.

Yours Truly,

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Attachments

Attachment A – Investigation Location Plan

Attachment B – Soil Boring Logs

Attachment C – Test Pit Photo Logs

Attachment D – Electrical Resistivity Results

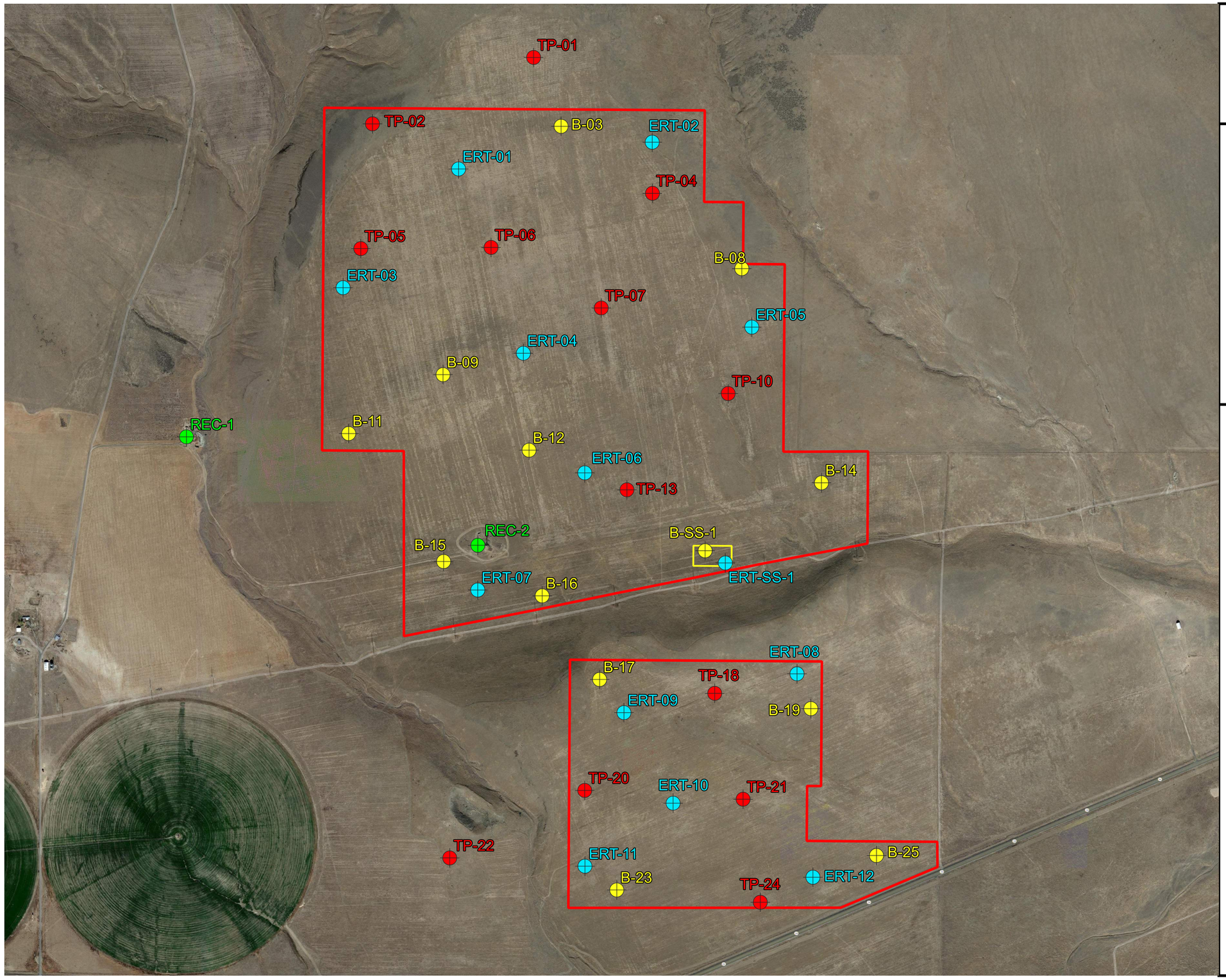
Attachment E – Geotechnical Laboratory Test Results

Attachment F – Environmental Sampling Results

Attachment G – Seismic Support Data

Attachment A

Investigation Location Plan



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Client:

CYPRESS CREEK RENEWABLES

INVESTIGATION LOCATION PLAN

CYPRESS CREEK RENEWABLES
HIGH TOP SOLAR PROJECT
MOXEE, WASHINGTON

Legend

- Project Boundary
- Substation Boundary
- Soil Boring Location
- Test Pit Location
- Electrical Resistivity Location
- Environmental Sampling Location

0 500 1,000 1,500 2,000 2,500 ft

Reference Scale: 1:16,800
Absolute Scale: 1 inch = 1400 feet
Scale at 11" x 17" AS SHOWN

Prepared by: Kyle Hansen
Date: January 12, 2021
Drawing Number: ILP-1 Rev.0

Attachment B

Soil Boring Logs

SOIL BORING LOG

BORING NO.: **B-03**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 11:45 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 12:05 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.542891° **Long:** -119.973456° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	9	3 9 50/5"		GM	0.4 (5") - TOPSOIL Very dense, light brown to gray coarse to fine GRAVEL, some Silt, trace fine Sand, dry (GM) 2.0	-	-	-	-	PID = 0 Subrounded cobble at surface.
						Auger Refusal at 2 feet BGS. Offset, auger refusal at 1.5 feet BGS. End of Boring at 2 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-03**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

SOIL BORING LOG

BORING NO.: **B-08**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 12:10 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 12:35 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.539030° **Long:** -119.966328° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 1.2'	9	3			0.3 (4") - TOPSOIL	-	-	-	-	
	0.3'-'		11		GM	Very dense, light brown to gray coarse to fine GRAVEL, some Silt, little fine Sand, dry (GM)	-	-	-	-	PID = 0 Gravel is Basalt.
			50/3"			1.2					
						Spoon Refusal at 1.25 feet BGS. Auger Refusal at 1 foot BGS. Offset Auger Refusal at 1 foot BGS. End of Boring at 1.25 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-08**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

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SOIL BORING LOG

BORING NO.: **B-09**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 10:50 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 11:25 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.536152° **Long:** -119.978113° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	
☑ ATV	☐ Geoprobe	☑ Winch	
☑ Track	☐ Air Track	☐ Roller Bit	
☐ Skid	☐ _____	☑ Cutting Head	

Hammer Type

☐ Safety	
☐ Doughnut	
☑ Automatic	
☐ _____	

Drilling Fluid

☐ Bentonite	
☐ Polymer	
☐ Water	
☑ None	

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.5'- 1.5'-	13	2 3 11 19		ML	0.5 (6") - TOPSOIL Stiff, light brown SILT, some coarse to fine Sand, some coarse to fine Gravel, dry (ML)	-	-	-	-	PID = 0 Gravel is Basalt
						2.0	-	-	-	-	Auger grinding from 1.5 to 3 feet BGS.
	S-2 2.0'- 3.0'	9	20 50/3"		GM	Very dense, light brown to gray Silty coarse to fine GRAVEL, dry (GM) 3.0	-	-	-	-	
						Auger Refusal at 3 feet BGS. End of Boring at 3 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-09**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

SOIL BORING LOG

BORING NO.: **B-11**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 10:00 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 10:30 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.534556° **Long:** -119.981836° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety
☑ ATV	☐ Geoprobe	☑ Winch	☐ Doughnut
☑ Track	☐ Air Track	☐ Roller Bit	☑ Automatic
☐ Skid	☐ _____	☑ Cutting Head	☐ _____

Hammer Type

Drilling Fluid: ☐ Bentonite ☐ Polymer ☐ Water ☑ None

Drill Rod Size:

Casing Advance: Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	14	2 2 15 15			(8") - TOPSOIL	-	-	-	-	PID = 0 Rock stuck in tip of spoon. Auger grinding from 1.5 to 2 feet BGS.
					ML	0.6 Very stiff, light brown to gray SILT, some coarse to fine Sand, some coarse to fine Gravel, dry (ML)					
	S-2 2.0'- 2.2'	0	50/2"		ML	2.2 NO RECOVERY, Assumed to be: Hard SILT, some coarse to fine Sand, some coarse to fine Gravel, dry (ML)	-	-	-	-	
						Auger Refusal at 3 and 4 feet BGS in Boring and offset location. End of Boring at 2.2 feet BGS. Borehole backfilled with soil cuttings.					

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-11**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

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SOIL BORING LOG

BORING NO.: **B-12**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 9:15 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 9:40 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.534104° **Long:** -119.974719° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	14	3 4 10 25			(7") - TOPSOIL	-	-	-	-	PID = 0 Gravel is Basalt.
					GM	0.6 Medium dense, light brown to gray Silty coarse to fine GRAVEL, little fine Sand, dry (GM)					Auger grinding at 1.5 feet BGS.
	S-2 2.0'- 2.7'	7	32 50/3"		GM	Very dense, gray coarse to fine GRAVEL, little Silt, trace fine Sand, dry (GM) 2.7	-	-	-	-	Tip of spoon broke on sample 2. Gravel is Basalt.
						Auger Refusal at 2.5 feet BGS. Offset 10 feet West and Auger Refusal at 1.5 feet BGS. End of Boring at 2.75 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:
PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-12**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

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SOIL BORING LOG

BORING NO.: **B-14**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 1:05 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 1:41 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.533219° **Long:** -119.963182° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	
☑ ATV	☐ Geoprobe	☑ Winch	
☑ Track	☐ Air Track	☐ Roller Bit	
☐ Skid	☐ _____	☑ Cutting Head	

Hammer Type: ☐ Safety, ☐ Doughnut, ☑ Automatic, ☐ _____

Drilling Fluid: ☐ Bentonite, ☐ Polymer, ☐ Water, ☑ None

Drill Rod Size:

Casing Advance: Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.6'-'	20	3 3 3 3			(8") - TOPSOIL 0.6	-	-	-	-	
					ML	Medium stiff, light brown SILT, some medium to fine Sand, dry (ML) 2.0	-	-	-	-	PID = 0
	S-2 2.0'- 4.0'	12	4 17 50/5"		GM	Very dense, light brown to gray Silty coarse to fine GRAVEL, little medium to fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt.
5	S-3 4.0'- 6.0'	5	29 50/2"		GM	Very dense, light brown to gray Silty coarse to fine GRAVEL, trace medium to fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt. Auger grinding from 4 to 6 feet BGS. Auger cuttings are angular Basalt Gravel.
	S-4 6.0'- 7.0'	6	34 50/2"		GM	Very dense, light brown coarse to fine GRAVEL, little medium to fine Sand, little Silt, dry (GM) 7.0	-	-	-	-	Gravel is Basalt. Auger grinding from 6 to 7 feet BGS.
10						Auger Refusal at 7 feet BGS. End of Boring at 7 feet BGS. Borehole backfilled with soil cuttings.					
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-14**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

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SOIL BORING LOG

BORING NO.: **B-15**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	November 30, 2020 at 1:10 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 8:45 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.531084° **Long:** -119.978090° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	
☑ ATV	☐ Geoprobe	☑ Winch	
☑ Track	☐ Air Track	☐ Roller Bit	
☐ Skid	☐ _____	☑ Cutting Head	

Hammer Type

☐ Safety	
☐ Doughnut	
☑ Automatic	
☐ _____	

Drilling Fluid

☐ Bentonite	
☐ Polymer	
☐ Water	
☑ None	

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.5'-'	16	2 3 4 5			0.5 (6") - TOPSOIL	-	-	-	-	
					ML	Medium stiff, light brown SILT, little fine Sand, dry (ML) 2.0	-	-	-	-	PID = 0
	S-2 2.0'- 4.0'	14	14 18 50/5"		GM	Very dense, light brown to gray coarse to fine GRAVEL, little medium to fine Sand, little Silt, dry (GM)	-	-	-	-	PID = 0 Auger grinding from 2.5 to 4 feet BGS.
5	S-3 4.0'- 6.0'	16	43 26 21 20		GM	Dense, light brown to gray coarse to fine GRAVEL, little medium to fine Sand, little Silt, dry (GM)	-	-	-	-	Auger grinding from 4 to 6 feet BGS.
	S-4 6.0'- 7.2'	10	26 32 50/3"		GM	Very dense, gray coarse to fine GRAVEL, little medium to fine Sand, little Silt, dry (GM) 7.2	-	-	-	-	
10						Spoon Refusal at 7.25 feet BGS. Auger Refusal at 6.25 feet BGS. End of Boring at 7.25 feet BGS. Borehole backfilled with soil cuttings.					
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-15**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

ANS GEO

SOIL BORING LOG

BORING NO.: **B-16**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	November 30, 2020 at 11:20 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	November 30, 2020 at 11:50 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.530152° **Long:** -119.974201° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety
☑ ATV	☐ Geoprobe	☑ Winch	☐ Doughnut
☑ Track	☐ Air Track	☐ Roller Bit	☑ Automatic
☐ Skid	☐ _____	☑ Cutting Head	☐ _____

Hammer Type

Drilling Fluid: ☐ Bentonite ☐ Polymer ☐ Water ☑ None

Drill Rod Size:

Casing Advance: Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.8'-'	24	2 3 3 4			(9") - TOPSOIL 0.8	-	-	-	-	
					ML	Medium stiff, light brown Clayey SILT, little fine Sand, dry (ML)	-	-	-	-	PID = 0
	S-2 2.0'- 4.0'	18	3 4 17 19		ML	Very stiff, light brown Sandy SILT, trace coarse to fine Gravel, dry (ML) 4.0	-	-	-	-	Gravel stuck in tip of spoon at 2 feet BGS.
	S-3 4.0'- 4.5'	5	50/5"		GM	4.5 Very dense, gray to light brown coarse to fine GRAVEL, little Silt, trace fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt fragments. Heavy auger grinding from 4 to 4.5 feet BGS.
5						Auger Refusal at 4.5 feet BGS. End of Boring at 4.5 feet BGS. Borehole backfilled with soil cuttings.					
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-16**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

SOIL BORING LOG

BORING NO.: **B-17**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 2:40 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 3:20 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.527883° **Long:** -119.971936° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	14	3 4 5			0.5 (6") - TOPSOIL	-	-	-	-	
	0.5'-'		50/5"		ML	Stiff, brown SILT, little coarse to fine Gravel, little medium to fine Sand, dry (ML) 2.0	-	-	-	-	PID = 0 Basalt fragments in tip of spoon.
	S-2 2.0'- 3.0'	5	15 50/1"		GM	Very dense, light brown to gray coarse to fine GRAVEL, some Silt, trace fine Sand, dry (GM) 3.0	-	-	-	-	Gravel is Basalt.
						Auger Refusal at 3 feet BGS. Offset Auger Refusal at 2.5 feet BGS. End of Boring at 3 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-17**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

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SOIL BORING LOG

BORING NO.: **B-19**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 1, 2020 at 1:55 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 1, 2020 at 2:20 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.527091° **Long:** -119.963602° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

- ☐ Truck ☐ Tripod ☐ Cat-Head
- ☑ ATV ☐ Geoprobe ☑ Winch
- ☑ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☐ _____ ☑ Cutting Head

Hammer Type

- ☐ Safety
- ☐ Doughnut
- ☑ Automatic
- ☐ _____

Drilling Fluid

- ☐ Bentonite
- ☐ Polymer
- ☐ Water
- ☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1	14	2			(8") - TOPSOIL	-	-	-	-	
	0.0'- 2.0'		3			0.6					
	0.6'-'		3		ML	Medium stiff, light brown SILT, little medium to fine Sand, dry (ML)	-	-	-	-	PID = 0
			10			2.0					
	S-2	7	13		GM	Very dense, light brown to gray Silty coarse to fine GRAVEL, little medium to fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt. Auger grinding from 2 to 3.5 feet BGS.
	2.0'- 3.5'		50/5"			3.5					
						Auger Refusal at 3.5 feet BGS. End of Boring at 3.5 feet BGS. Borehole backfilled with soil cuttings.					
5											
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-19**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

ANS GEO

SOIL BORING LOG

BORING NO.: **B-23**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 2, 2020 at 8:10 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 2, 2020 at 8:45 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.522171° **Long:** -119.971260° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	15	2 2 3 13			0.5 (6") - TOPSOIL	-	-	-	-	PID = 0 Basalt fragments in tip of spoon.
					ML	Medium stiff, light brown SILT, some fine Gravel, little medium to fine Sand, dry (ML)					
	S-2 2.0'- 4.0'	16	9 14 50/4"		ML	Top (12") - Light brown SILT, some fine Gravel, little medium to fine Sand, dry (ML)	-	-	-	-	
	3.0'-'					3.0					
					GM	Bottom (4") - Light brown to gray coarse to fine GRAVEL, little Silt, trace medium to fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt.
	S-3 4.0'- 6.0'	6	50/6"		GM	Very dense, light brown to gray coarse to fine GRAVEL, little medium to fine Sand, little Silt, dry (GM)	-	-	-	-	Gravel is Basalt. Auger grinding from 4 to 6 feet BGS.
5											
	S-4 6.0'- 6.5'	6	50/6"		GM	6.5 Very dense, light brown to gray coarse to fine GRAVEL, some coarse to fine Sand, little Silt, dry (GM)	-	-	-	-	
						Spoon Refusal at 6.5 feet BGS. Auger Refusal at 6.5 feet BGS. End of Boring at 6.5 feet BGS. Borehole backfilled with soil cuttings.					
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-23**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

ANS GEO

SOIL BORING LOG

BORING NO.: **B-25**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 2, 2020 at 9:10 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 2, 2020 at 9:45 am

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.523106° **Long:** -119.961013° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	
☑ ATV	☐ Geoprobe	☑ Winch	
☑ Track	☐ Air Track	☐ Roller Bit	
☐ Skid	☐ _____	☑ Cutting Head	

Hammer Type

☐ Safety	
☐ Doughnut	
☑ Automatic	
☐ _____	

Drilling Fluid

☐ Bentonite	
☐ Polymer	
☐ Water	
☑ None	

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0'	24	2 1 2 12			Top (12") - TOPSOIL	-	-	-	-	PID = 0
					ML	1.0 (6") - Light brown Sandy SILT, dry (ML)					
					GM	1.5 Bottom (6") - Gray coarse to fine GRAVEL, some Silt, dry (GM)					
	S-2 2.0'- 4.0'	8	18 50/3"		GM	Very dense, light brown to gray coarse to fine GRAVEL, little Silt, trace medium to fine Sand, dry (GM)	-	-	-	-	Gravel is Basalt. Auger grinding from 2 to 6 feet BGS.
	S-3 4.0'- 6.0'	7	40 50/4"		GP	4.0 Very dense, light brown to gray coarse to fine GRAVEL, little medium to fine Sand, trace Silt, dry (GP)	-	-	-	-	Gravel is Basalt.
5	S-4 6.0'- 6.1'	1	50/1"		GP	6.1 Very dense, light brown to gray coarse to fine GRAVEL, trace medium to fine Sand, trace Silt, dry (GP)	-	-	-	-	Gravel is Basalt.
						Spoon Refusal at 6.1 feet BGS. Auger Refusal at 6 feet BGS. End of Boring at 6 feet BGS. Borehole backfilled with soil cuttings.					
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-25**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

SOIL BORING LOG

BORING NO.: **B-SS-1**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 7, 2020 at 11:15 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 7, 2020 at 12:30 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** **Lat:** 46.531375° **Long:** -119.967774° | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	NQ
Length	5 ft	2 ft	- ft
Inside Dia. (in.)	4.25	1.375	1.875
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety
☑ ATV	☐ Geoprobe	☑ Winch	☐ Doughnut
☑ Track	☐ Air Track	☐ Roller Bit	☑ Automatic
☐ Skid	☐ _____	☑ Cutting Head	☐ _____

Hammer Type

Drilling Fluid
☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance
Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.6'-'	20	2 2 3 3			(8") - TOPSOIL 0.6	-	-	-	-	
					ML	Medium stiff, light brown Clayey SILT, some medium to fine Sand, dry (ML)	-	-	-	-	PID = 0
	S-2 2.0'- 4.0'	18	3 4 16 50/4"		ML	Top (12") - Light brown SILT, little medium to fine Sand, dry (ML) 3.0	-	-	-	-	Gravel is Basalt. Auger grinding from 3 to 4 feet BGS.
					GM	Bottom (12") - Gray to light brown Silty coarse to fine GRAVEL, little medium to fine Sand, dry (GM)					
	S-3 4.0'- 4.4'	4	50/5"		GM	Very dense, light brown to gray coarse to fine GRAVEL, little Silt, trace medium to fine Sand, dry (GM) 4.4	-	-	-	-	
5						Spoon Refusal at 4.4 feet BGS. Auger Refusal at 4 feet BGS. See Rock Coring Log.					
10											
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

O	Open End Rod
T	Thin-Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Grab Sample

Notes:
PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-SS-1**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

CORE BORING LOG

BORING NO.: **B-SS-1**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 7, 2020 at 11:15 am
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 7, 2020 at 12:30 pm

Elevation: Grade ft.	**Vertical Datum:**			**Boring Location:** See Boring Location Plan	**Coord.:** **Lat:** 46.531375° **Long:** -119.967774°
Item	**Casing**	**Core Barrel**	**Core Bit**		
Type	HSA	NQ	Imp. Diamond	**Horizontal Datum:** NAD 1983	**Drilling Method:** Wireline
Length	5 ft	5 ft	6 in	**Rig Make & Model:** Mobile B-57	
Inside Dia. (in.)	4.25	1.875	1.875		

Depth/ Elev. (ft)	Avg Core Rate (min /ft)	Depth (ft)	Run/ (Box) No.	Rec (in. / %)	RQD (in / %)	Rock Core Hard.	Rock Core Weath	Stratum Graphic	Visual Identification, Description and Remarks (Rock type, colour, texture, weathering, field strength, discontinuity spacing, optional additional geological observations)	Depth (ft.)	Discontinuities (See Legend for Rock Description System) Type	Dip	Rgh	Wea	Aper	Infill	Remarks
									SEE TEST BORING LOG FOR OVERBURDEN DETAILS								
5	2.50	4.0	R-1	24 100%	0 0%	R4	SL		BASALT, gray, fine grained, slightly weathered, strong, close spaced discontinuities 4' - 6' Highly Fractured zone								
	3.00	6.0								5.50	J	90	P,R	DS	PO	ML	
	2.50	6.0							BASALT, gray, fine grained, slightly weathered, strong, close spaced discontinuities 6' - 6.9' Highly Fractured zone								
	3.00									7.30	J	15	P,Sm	DS	T	ML	
	1.50		R-2	60 100%	9 15%	R4	SL		8.5' - 11' Highly Fractured zone	8.20	J	10	U,Sm	DS	PO	ML	
10	1.50																
	1.25	11.0							11.0								
									End of Boring at 11 feet BGS. Borehole backfilled with soil cuttings.								
15																	
20																	

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water
		-			

Notes:

ANS GEO

SOIL BORING LOG

BORING NO.: **B-REC-1A**
Page **1** of **1**

Project:	High Top Solar	**Project No.:**	N/A
Location:	Moxee, Washington	**Project Mgr:**	N/A
Client:	Cypress Creek Renewables	**Field Eng. Staff:**	Mihir Shah
Drilling Co.:	Elite Drilling Services	**Date/Time Started:**	December 7, 2020 at 1:10 pm
Driller/Helper:	Lenny Jecminek /Greg	**Date/Time Finished:**	December 7, 2020 at 1:40 pm

Elevation: Grade ft. **Vertical Datum:** | **Boring Location:** See Boring Location Plan | **Coord.:** N: E: | **Horizontal Datum:** NAD 1983

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	-
Length	5 ft	2 ft	-
Inside Dia. (in.)	4.25	1.375	-
Hammer Wt. (lb.)	140	140	-
Hammer Fall (in.)	30	30	-

Rig Make & Model: Mobile B-57

☐ Truck	☐ Tripod	☐ Cat-Head
☑ ATV	☐ Geoprobe	☑ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _____	☑ Cutting Head

Hammer Type

☐ Safety
☐ Doughnut
☑ Automatic
☐ _____

Drilling Fluid

☐ Bentonite
☐ Polymer
☐ Water
☑ None

Drill Rod Size:

Casing Advance

Hollow Stem Auger

Depth/ Elev. (ft)	Sample No. / Interval (ft)	Rec. (in)	Sample Blows per 6"	Stratum Graphic	USCS Group Symbol	Visual - Manual Identification & Description (Density/consistency, color, Group Name, constituents, particle size, structure, moisture, optional descriptions, geologic interpretation, Symbol)	Field Tests: Dilatancy	Toughness	Plasticity	Dry Strength	Remarks
	S-1 0.0'- 2.0' 0.3'-'	20	3 3 3 6		SM	0.3 (4") - Stained soils (16") - Light brown Silty SAND, dry (SM)	-	-	-	-	Official PID = 0.0 ppm in stained area. PID = 1.0 ppm
	S-2 2.0'- 4.0'	10	6 6 6 6		SM	Medium dense, light brown Silty medium to fine SAND, dry (SM)	-	-	-	-	PID = 0.0 ppm
5	S-3 4.0'- 6.0'	18	5 4 3 20		SM	Loose, light brown Silty medium to fine SAND, dry (SM)	-	-	-	-	PID = 0.7 ppm
	S-4 6.0'- 7.5'	13	30 20 48 50/1"		SM	Very dense, light brown Silty medium to fine SAND, dry (SM) 7.5	-	-	-	-	PID = 0.0 ppm
10						Spoon Refusal at 7.5 feet BGS. End of Boring at 7.5 feet BGS. Borehole backfilled with soil cuttings.					
15											

Water Level Data

Date	Time	Elapsed Time (hr)	Depth in feet to: Bot. of Casing	Bottom of Hole	Water

Sample Type

- **O** Open End Rod
- **T** Thin-Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Grab Sample

Notes:

PID = Photo Ionization Detector
Groundwater not encountered at time of boring

Boring No.: **B-REC-1A**

Field Test Legend:
Dilatancy: N - None S - Slow R - Rapid
Toughness: L - Low M - Medium H - High
Plasticity: NP - Non-Plastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High VH - Very High

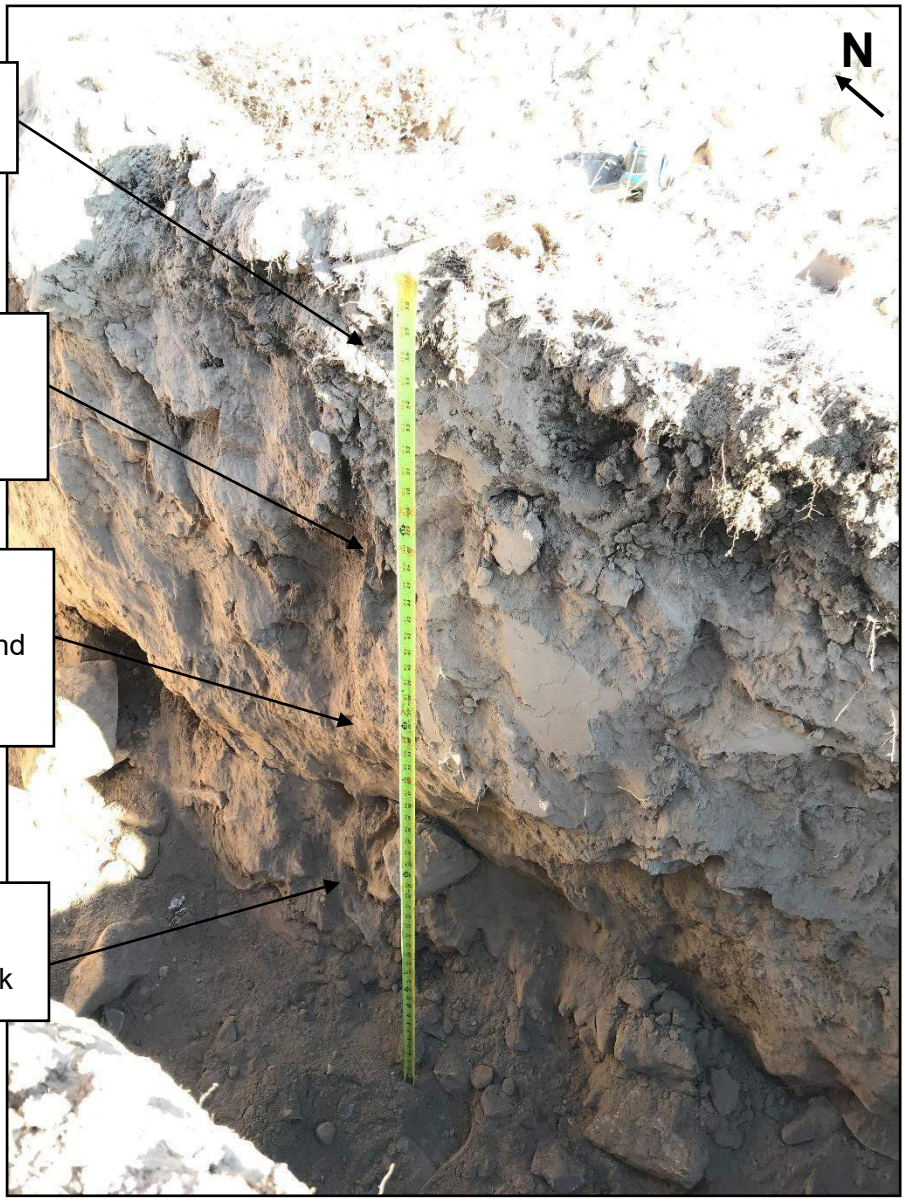
NOTES: 1.) "ppd" denotes soil sample average diametral pocket penetrometer reading. 2.) "ppa" denotes soil sample average axial pocket penetrometer reading.
3.) Maximum Particle Size is determined by direct observation within limitations of sampler size. 4.) Soil identifications and field tests based on visual-manual methods per ASTM D2488.

Attachment C

Test Pit Photo Logs

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-01
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	60 inches (5.0 feet)	**Time Opened**	12:30 PM
Groundwater Depth	Not Encountered	**Time Closed**	1:05 PM



0-5”
Topsoil

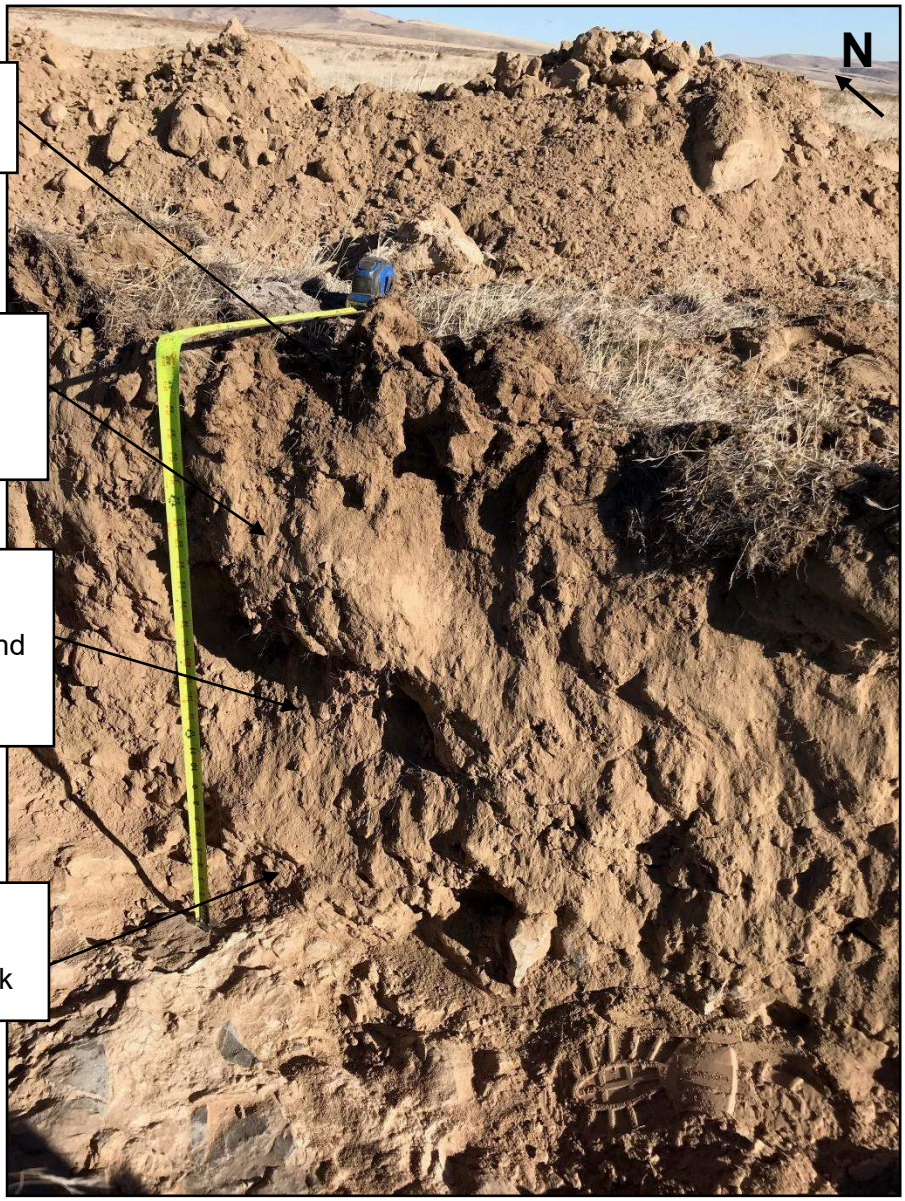
5-36”
Light brown SILT, little medium to fine Sand, dry (ML)

36-60”
Light brown to gray COBBLES with Silt and Gravel interspersed throughout

60”
Gray to white BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-02
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	30 inches (2.5 feet)	**Time Opened**	11:50 AM
Groundwater Depth	Not Encountered	**Time Closed**	12:20 PM



0-6”
Topsoil

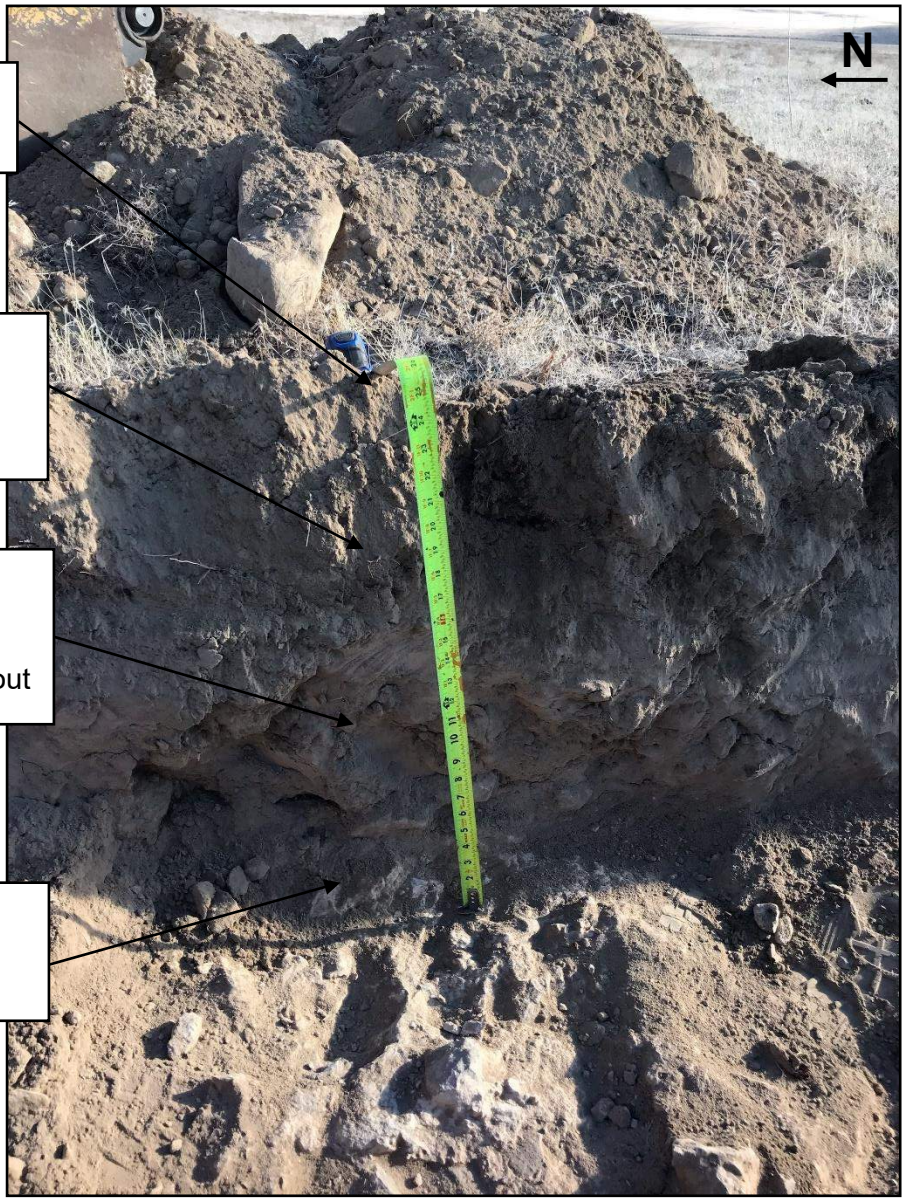
6-12”
Light brown SILT, little medium to fine Sand, dry (ML)

12-30”
Brown to gray COBBLES with Silt and Gravel interspersed throughout

30”
Gray to white BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-04
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	24 inches (2.0 feet)	**Time Opened**	1:15 PM
Groundwater Depth	Not Encountered	**Time Closed**	1:35 PM



0-7”
Topsoil

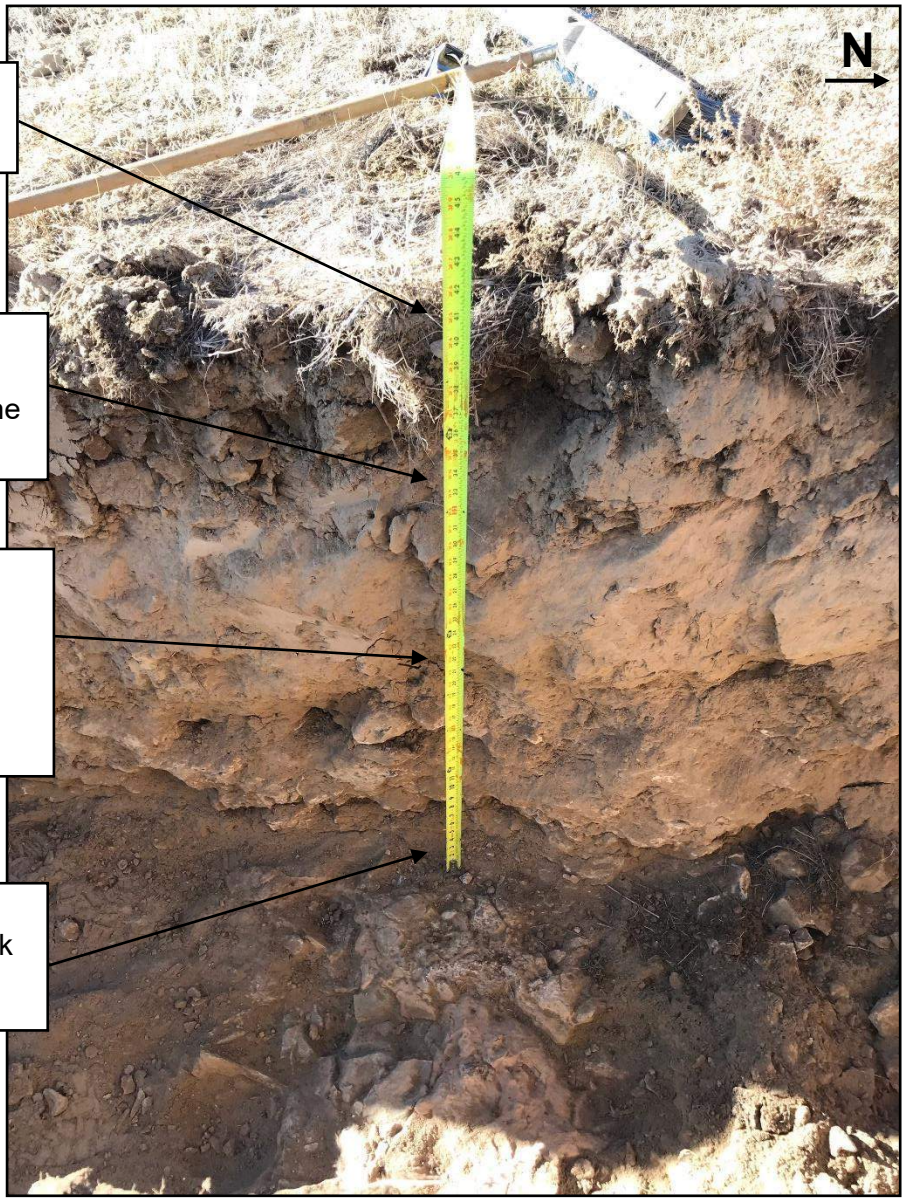
7-14”
Light brown SILT, little medium to fine Sand, dry (ML)

14-24”
Gray COBBLES, Silt and Gravel interspersed throughout

24”
Gray BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-05
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	42 inches (3.5 feet)	**Time Opened**	11:00 AM
Groundwater Depth	Not Encountered	**Time Closed**	11:35 AM



0-5”
Topsoil

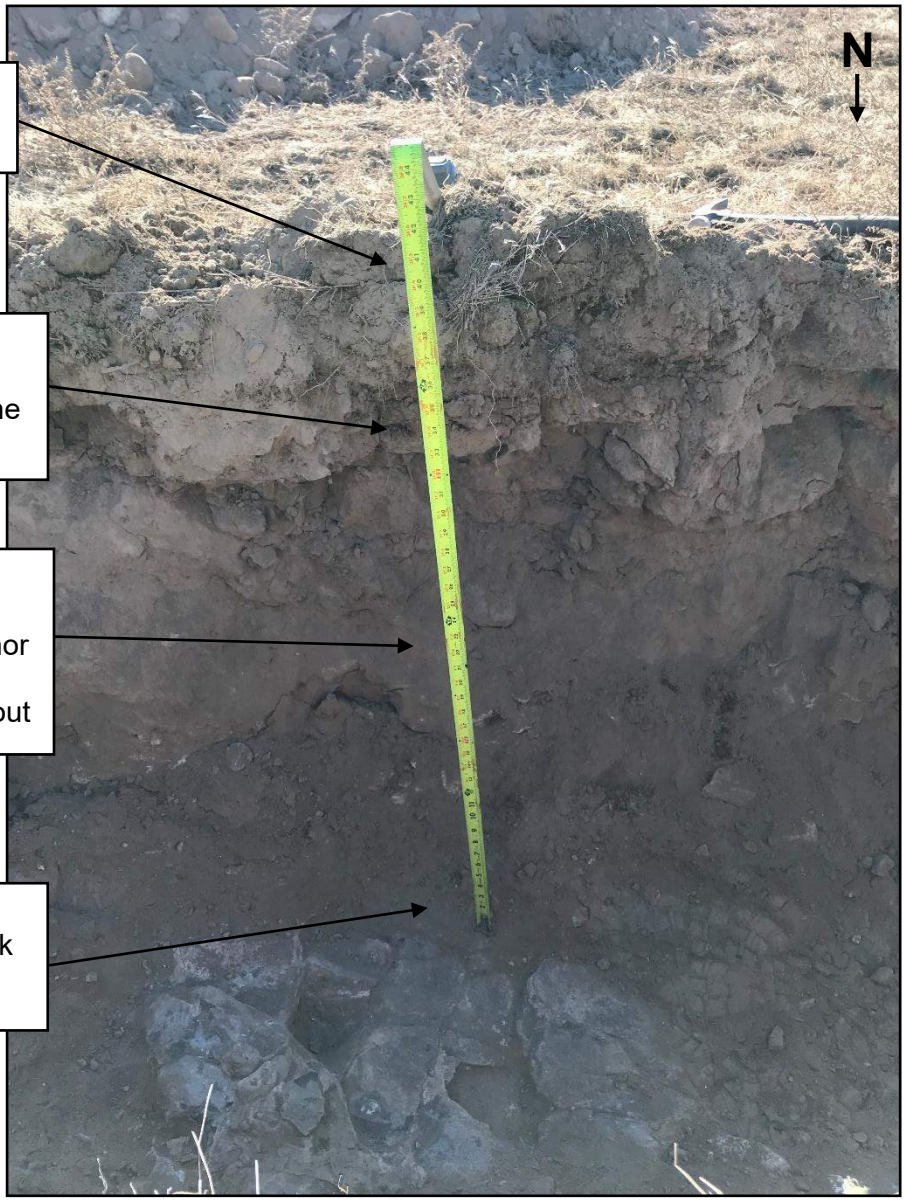
5-24”
Light brown SILT, some medium to fine Sand, dry (ML)

24-42”
Brown to gray COBBLES and BOULDERS, Silt and Gravel interspersed throughout

42”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-06
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	36 inches (3.0 feet)	**Time Opened**	10:10 AM
Groundwater Depth	Not Encountered	**Time Closed**	11:00 AM



0-6”
Topsoil

6-24”
Light brown SILT, some medium to fine Sand, dry (ML)

24-36”
BASALT COBBLES and BOULDERS, minor Silt and Gravel interspersed throughout

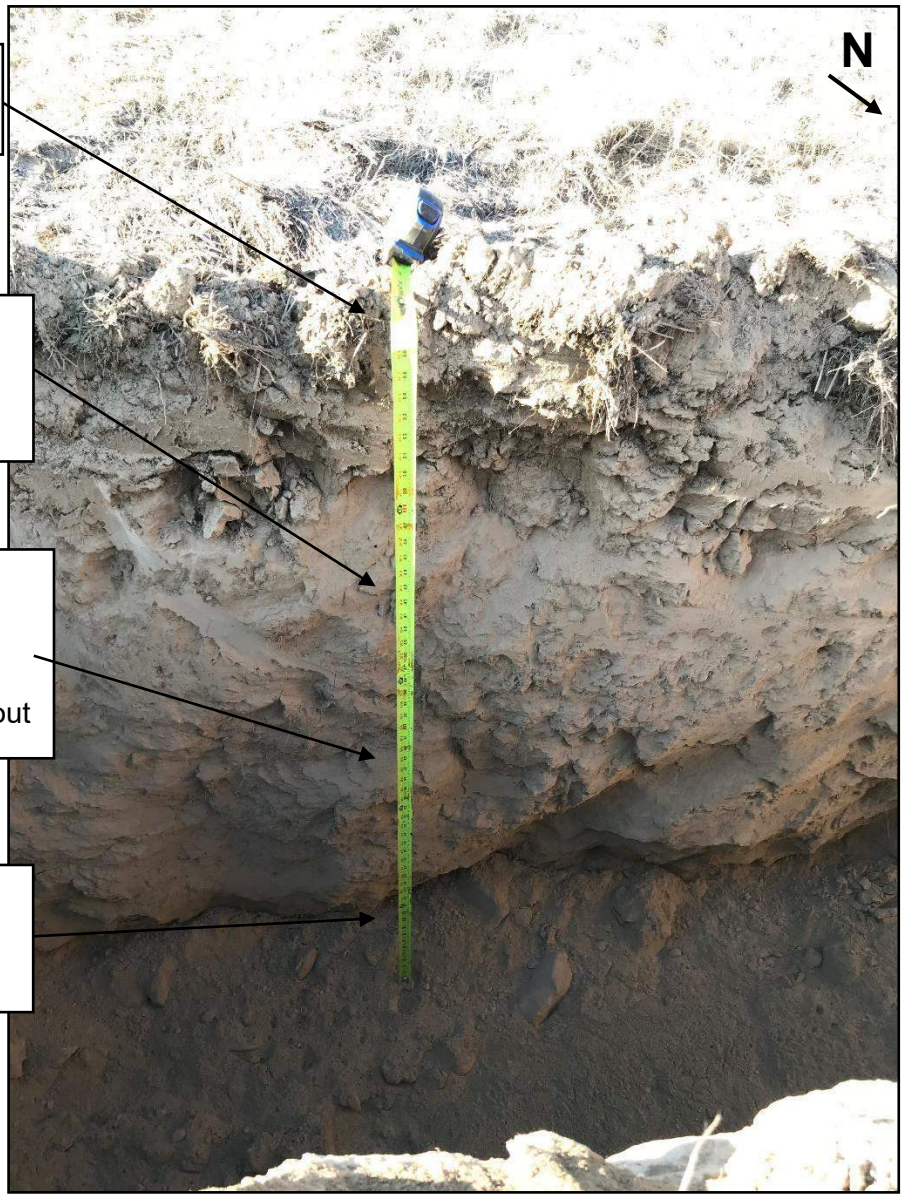
36”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-07
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	29 inches (2.4 feet)	**Time Opened**	1:45 PM
Groundwater Depth	Not Encountered	**Time Closed**	2:10 PM

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-10
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	58 inches (4.8 feet)	**Time Opened**	2:15 PM
Groundwater Depth	Not Encountered	**Time Closed**	2:35 PM



0-8”
Topsoil

8-36”
Light brown SILT, little medium to fine Sand, dry (ML)

36-58”
Gray to light brown COBBLES, with Silt and Gravel interspersed throughout

58”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-13
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	40 inches (3.3 feet)	**Time Opened**	2:45 PM
Groundwater Depth	Not Encountered	**Time Closed**	3:10 PM

0-8”
Topsoil

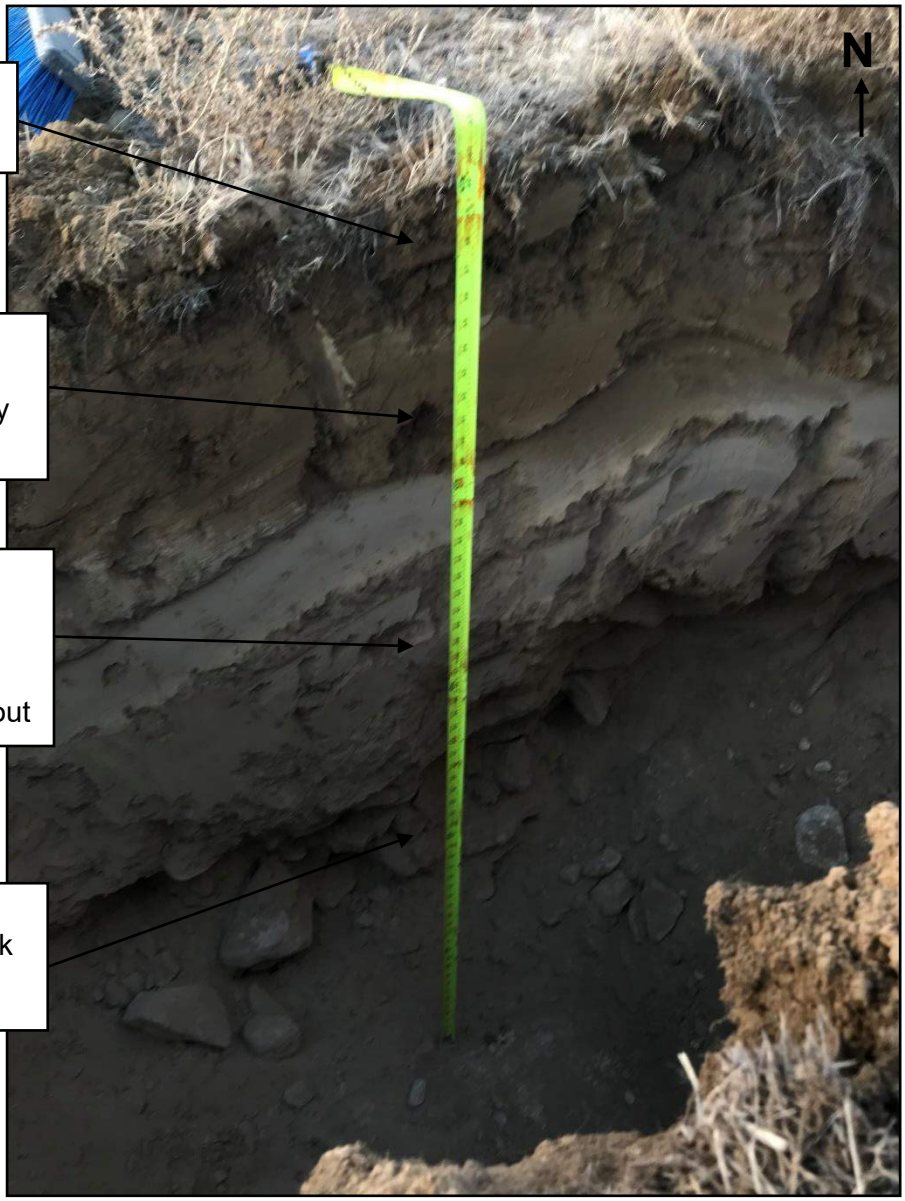
8-18”
Light brown SILT, little medium to fine Sand, dry (ML)

18-40”
Gray COBBLES, with Silt and Gravel interspersed throughout

40”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-18
Site Location	Moxee, Washington	**Date**	12/3/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 40°F
Final Test Pit Depth	62 inches (5.2 feet)	**Time Opened**	3:25 PM
Groundwater Depth	Not Encountered	**Time Closed**	3:50 PM



0-8”
Topsoil

8-39”
Light brown SILT, some fine Sand, dry (ML)

39-62”
Gray to light brown COBBLES, with Silt and Gravel interspersed throughout

62”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-20
Site Location	Moxee, Washington	**Date**	12/4/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 35°F
Final Test Pit Depth	39 inches (3.3 feet)	**Time Opened**	7:40 AM
Groundwater Depth	Not Encountered	**Time Closed**	8:10 AM

0-10”
Topsoil

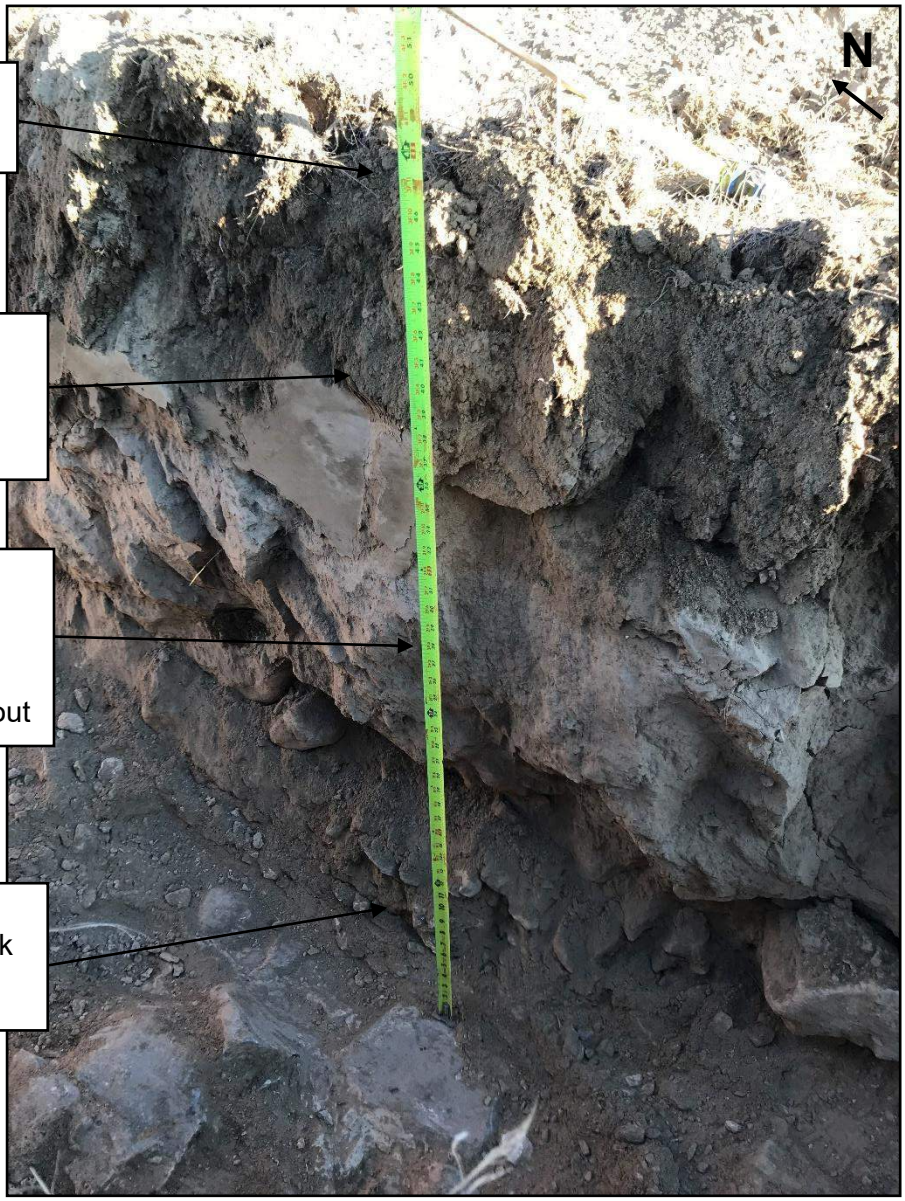
10-36”
Light brown SILT, little medium to fine Sand, dry (ML)

36-39”
Gray to light brown COBBLES, with Silt and Gravel interspersed throughout

39”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-21
Site Location	Moxee, Washington	**Date**	12/4/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 35°F
Final Test Pit Depth	45 inches (3.8 feet)	**Time Opened**	8:55 AM
Groundwater Depth	Not Encountered	**Time Closed**	9:30 AM



0-7”
Topsoil

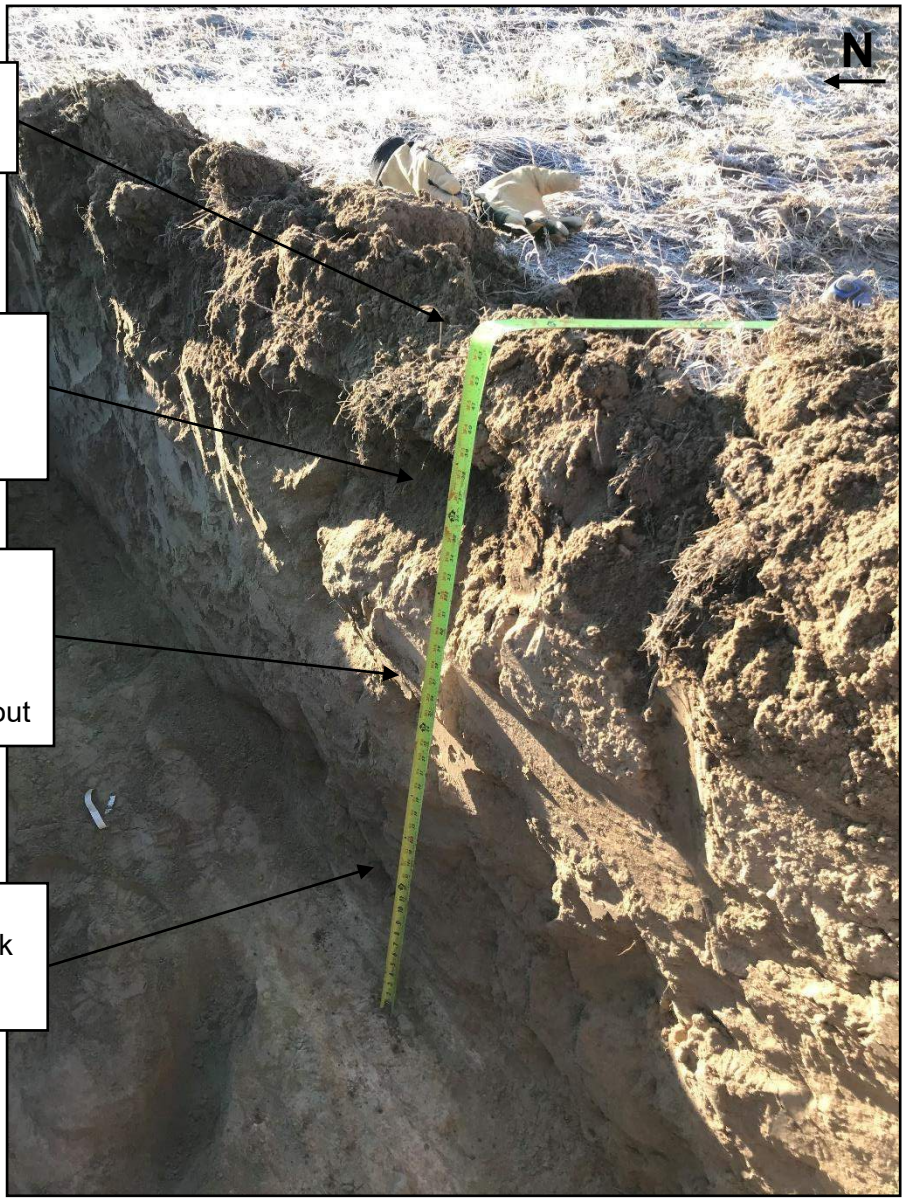
7-28”
Light brown SILT, little medium to fine Sand, dry (ML)

28-45”
Gray to light brown COBBLES, with Silt and Gravel interspersed throughout

45”
BASALT Bedrock

TEST PIT PHOTO LOG

Project Name	High Top Solar	**Test Pit ID**	TP-24
Site Location	Moxee, Washington	**Date**	12/4/2020
Test Pit Contractor	Elite Drilling Services	**ANS Geo Representative**	Mihir Shah
Equipment Used	John Deere 26G	**Weather/Temp**	Sunny / 35°F
Final Test Pit Depth	46 inches (3.8 feet)	**Time Opened**	8:20 AM
Groundwater Depth	Not Encountered	**Time Closed**	8:50 AM



0-8”
Topsoil

8-34”
Light brown SILT, little medium to fine Sand, dry (ML)

34-46”
Gray to light brown COBBLES, with Silt and Gravel interspersed throughout

46”
BASALT Bedrock

Attachment D

Electrical Resistivity Results

Soil Resistivity Results

Client:	Cypress Creek Renewables	Date:	October 28 - 29, 2020
Project Name:	High Top Solar	Weather:	Sunny
Project Location:	Moxee, Washington	Temperature:	60 - 65° F
Equipment:	AGI MiniSting		
Test Method:	Wenner 4 Electrode Array		

Array		Data	Array spacing (ft)										
			1.0	1.5	2.0	3.0	4.5	7.0	10.0	15.0	22.5	35.0	50.0	75.0
ERT-01	N-S	Measured Resistance (Ω)	407.20	147.10	96.15	51.27	34.16	18.27	13.06	8.99	6.22	4.33	3.07	1.89
		Apparent Resistivity (Ω-m)	779.98	422.45	368.20	294.59	294.44	244.97	250.06	258.23	268.07	290.23	293.95	271.24
	E-W	Measured Resistance (Ω)	321.70	173.70	109.20	54.48	32.56	17.88	13.11	8.77	6.31	3.82	2.84	1.50
		Apparent Resistivity (Ω-m)	616.00	498.96	418.19	313.03	280.63	239.76	251.16	251.89	271.82	256.31	271.73	214.91
ERT-02	N-S	Measured Resistance (Ω)	350.80	189.70	127.80	77.19	43.12	22.83	12.91	7.72	4.71	2.39	1.55	0.89
		Apparent Resistivity (Ω-m)	671.78	544.98	489.51	443.48	371.55	306.02	247.19	221.86	203.06	160.05	148.74	127.83
	E-W	Measured Resistance (Ω)	322.30	227.90	153.70	81.92	43.62	1050.00	14.93	8.36	4.39	2.47	1.23	0.65
		Apparent Resistivity (Ω-m)	98.24	654.71	588.87	470.61	375.82	320.04	285.96	240.21	189.10	165.69	117.53	93.12
ERT-03	N-S	Measured Resistance (Ω)	2341.00	163.50	116.50	66.57	31.38	17.81	11.82	8.19	5.34	3.11	1.79	0.71
		Apparent Resistivity (Ω-m)	113.54	469.70	446.23	382.52	270.42	238.72	226.31	235.37	230.22	208.42	171.63	102.32
	E-W	Measured Resistance (Ω)	235.90	124.40	78.02	48.99	30.26	19.08	12.89	7.52	5.40	3.32	1.91	0.77
		Apparent Resistivity (Ω-m)	451.71	357.23	298.86	281.45	260.76	255.85	246.95	216.07	232.81	222.56	185.87	110.46
ERT-04	N-S	Measured Resistance (Ω)	366.10	63.67	96.81	43.46	26.32	13.48	10.83	8.17	6.02	3.72	2.30	0.93
		Apparent Resistivity (Ω-m)	701.04	182.91	370.94	249.69	226.83	180.72	207.39	234.73	259.29	249.11	220.10	141.12
	E-W	Measured Resistance (Ω)	315.50	159.50	125.20	56.18	26.33	13.80	10.46	8.14	6.23	3.63	2.42	1.31
		Apparent Resistivity (Ω-m)	604.11	458.42	479.45	322.78	226.92	185.04	200.25	233.75	268.56	243.38	231.80	188.12
		Site Average (Ω)	**582.56**	**156.18**	**112.92**	**60.01**	**33.47**	**146.64**	**12.50**	**8.23**	**5.58**	**3.35**	**2.14**	**1.08**
		Site Average (Ω-m)	**465.20**	**452.41**	**484.00**	**360.75**	**297.64**	**252.59**	**244.96**	**234.86**	**238.11**	**220.47**	**201.93**	**158.52**

Soil Resistivity Results

Client:	Cypress Creek Renewables	Date:	October 28 - 29, 2020
Project Name:	High Top Solar	Weather:	Sunny
Project Location:	Moxee, Washington	Temperature:	60 - 65° F
Equipment:	AGI MiniSting		
Test Method:	Wenner 4 Electrode Array		

Array		Data	Array spacing (ft)											
			1.0	1.5	2.0	3.0	4.5	7.0	10.0	15.0	22.5	35.0	50.0	75.0
ERT-05	N-S	Measured Resistance (Ω)	284.40	162.10	105.20	77.41	19.98	12.30	8.02	5.84	4.73	3.61	2.72	1.93
		Apparent Resistivity (Ω-m)	544.68	465.73	402.95	444.70	172.15	164.90	153.68	167.88	203.67	241.65	260.33	276.73
	E-W	Measured Resistance (Ω)	251.70	186.50	111.80	40.11	19.40	12.13	8.88	6.05	4.34	3.70	2.83	1.77
		Apparent Resistivity (Ω-m)	482.19	535.53	428.24	230.43	167.18	162.58	170.05	173.92	186.87	248.05	270.69	253.50
ERT-06	N-S	Measured Resistance (Ω)	381.70	213.50	194.40	112.90	64.80	37.39	24.55	14.27	9.54	5.40	3.65	1.67
		Apparent Resistivity (Ω-m)	730.91	613.26	744.32	648.31	558.39	501.09	470.31	409.96	411.18	361.80	349.30	239.42
	E-W	Measured Resistance (Ω)	355.70	239.20	184.50	124.60	68.09	1845.00	22.60	13.97	9.27	5.62	3.31	1.69
		Apparent Resistivity (Ω-m)	108.42	687.32	706.53	715.98	586.74	562.36	432.82	401.42	399.59	376.43	316.69	243.26
ERT-07	N-S	Measured Resistance (Ω)	1781.00	139.80	112.80	60.49	29.06	14.62	9.20	6.82	5.13	4.23	3.52	2.46
		Apparent Resistivity (Ω-m)	86.38	401.42	431.90	347.47	250.45	195.96	176.14	195.83	221.04	283.46	337.11	352.65
	E-W	Measured Resistance (Ω)	259.50	162.30	116.40	55.89	30.71	14.63	8.97	6.46	5.43	4.24	3.45	2.38
		Apparent Resistivity (Ω-m)	497.13	466.04	445.92	321.26	264.69	196.17	171.75	185.44	234.03	283.92	330.71	341.99
ERT-08	N-S	Measured Resistance (Ω)	297.10	148.30	84.23	36.22	21.13	13.76	10.74	9.76	7.41	5.11	2.59	1.94
		Apparent Resistivity (Ω-m)	569.37	426.11	322.48	208.09	182.06	184.46	205.77	280.45	319.13	342.90	248.17	279.29
	E-W	Measured Resistance (Ω)	304.10	133.00	91.48	35.48	19.73	14.56	12.08	9.61	6.89	5.13	3.26	2.06
		Apparent Resistivity (Ω-m)	583.69	381.91	350.52	203.82	169.99	195.16	231.37	276.03	297.03	343.81	312.42	296.02
		Site Average (Ω)	**489.40**	**173.09**	**125.10**	**67.89**	**34.11**	**245.55**	**13.13**	**9.10**	**6.59**	**4.63**	**3.17**	**1.99**
		Site Average (Ω-m)	**436.87**	**501.66**	**496.82**	**392.64**	**322.81**	**305.31**	**253.80**	**260.99**	**277.82**	**301.03**	**296.09**	**280.97**

Soil Resistivity Results

Client:	Cypress Creek Renewables	Date:	October 28 - 29, 2020
Project Name:	High Top Solar	Weather:	Sunny
Project Location:	Moxee, Washington	Temperature:	60 - 65° F
Equipment:	AGI MiniSting		
Test Method:	Wenner 4 Electrode Array		

Array		Data	Array spacing (ft)											
			1.0	1.5	2.0	3.0	4.5	7.0	10.0	15.0	22.5	35.0	50.0	75.0
ERT-09	N-S	Measured Resistance (Ω)	350.60	220.10	173.70	72.35	34.71	18.51	13.70	10.06	7.52	5.33	3.44	1.91
		Apparent Resistivity (Ω-m)	670.56	632.46	665.38	415.75	299.13	248.20	262.40	289.07	324.31	356.92	329.79	274.29
	E-W	Measured Resistance (Ω)	459.50	192.00	140.50	67.55	40.25	15.07	12.05	10.43	8.03	5.57	3.68	1.79
		Apparent Resistivity (Ω-m)	879.96	551.38	537.97	388.01	346.86	202.08	230.86	299.50	345.95	373.08	352.35	257.13
ERT-10	N-S	Measured Resistance (Ω)	236.80	170.50	90.20	38.80	18.05	10.18	7.56	5.75	4.68	3.26	2.44	1.47
		Apparent Resistivity (Ω-m)	453.54	489.81	345.64	222.90	155.54	136.43	144.81	165.17	201.84	218.48	233.87	211.44
	E-W	Measured Resistance (Ω)	283.10	161.30	94.19	43.93	19.31	464.20	7.58	5.49	4.39	3.51	2.57	1.41
		Apparent Resistivity (Ω-m)	86.29	463.30	360.88	252.56	166.39	141.49	145.15	157.76	188.98	235.46	246.46	202.81
ERT-11	N-S	Measured Resistance (Ω)	2042.00	153.20	104.40	50.82	27.14	11.87	6.20	3.47	1.99	1.28	1.05	0.83
		Apparent Resistivity (Ω-m)	99.09	440.13	399.90	338.02	233.90	159.11	118.69	99.73	85.80	85.86	100.46	119.39
	E-W	Measured Resistance (Ω)	346.00	185.60	116.00	56.14	33.00	12.81	5.79	3.23	1.98	1.31	1.00	0.82
		Apparent Resistivity (Ω-m)	662.64	533.10	444.40	322.48	284.35	171.69	110.83	92.87	85.22	87.57	96.04	118.23
ERT-12	N-S	Measured Resistance (Ω)	269.40	141.00	85.14	34.89	19.90	7.74	4.93	2.77	1.59	1.07	0.90	0.69
		Apparent Resistivity (Ω-m)	516.03	405.08	326.14	200.47	171.45	103.75	94.43	79.52	67.88	71.60	86.01	98.91
	E-W	Measured Resistance (Ω)	228.90	163.80	104.60	45.10	19.72	8.15	5.01	2.73	1.59	1.13	0.87	0.72
		Apparent Resistivity (Ω-m)	438.30	470.31	400.51	259.11	169.99	109.24	96.01	78.30	68.58	75.68	83.42	103.21
		Site Average (Ω)	**527.04**	**173.44**	**113.59**	**51.20**	**26.51**	**68.57**	**7.85**	**5.49**	**3.97**	**2.81**	**2.00**	**1.21**
		Site Average (Ω-m)	**447.98**	**479.01**	**435.75**	**327.00**	**274.23**	**179.94**	**154.99**	**152.63**	**163.33**	**179.60**	**190.37**	**183.50**

Soil Resistivity Results

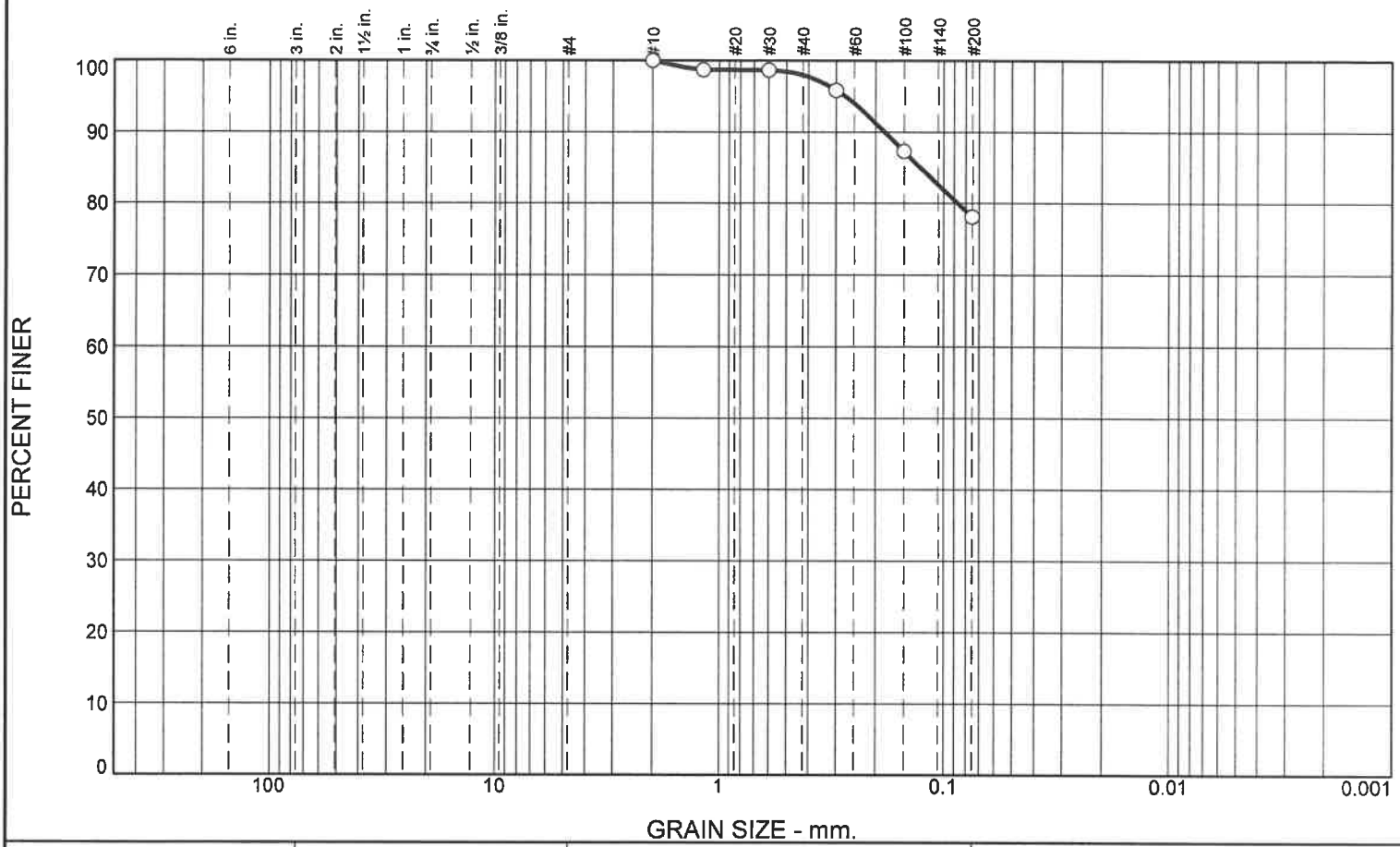
Client:	Cypress Creek Renewables	Date:	October 28 - 29, 2020
Project Name:	High Top Solar	Weather:	Sunny
Project Location:	Moxee, Washington	Temperature:	60 - 65° F
Equipment:	AGI MiniSting		
Test Method:	Wenner 4 Electrode Array		

Array		Data	Array spacing (ft)												
			1.0	1.5	2.0	3.0	4.5	7.0	10.0	15.0	22.5	35.0	50.0	75.0	100.0	150.0
ERT-SS-1	N-S	Measured Resistance (Ω)	283.60	179.40	111.00	54.14	28.62	13.54	9.76	7.49	6.18	4.95	4.13	2.56	1.82	1.01
		Apparent Resistivity (Ω-m)	0.54	515.42	424.89	311.20	246.64	181.45	186.96	215.28	266.09	331.62	395.33	367.28	349.30	289.50
	E-W	Measured Resistance (Ω)	249.20	193.20	127.10	61.76	29.21	13.98	9.43	7.19	6.11	4.84	4.02	2.95	2.03	0.88
		Apparent Resistivity (Ω-m)	0.48	554.74	487.07	354.79	251.73	187.39	180.56	206.47	263.19	324.00	385.27	423.98	388.32	253.01
		Site Average (Ω)	**266.40**	**186.30**	**119.05**	**57.95**	**28.92**	**13.76**	**9.60**	**7.34**	**6.14**	**4.89**	**4.08**	**2.75**	**1.93**	**0.94**
		Site Average (Ω-m)	**0.51**	**535.08**	**455.98**	**332.99**	**249.19**	**184.42**	**183.76**	**210.88**	**264.64**	**327.81**	**390.30**	**395.63**	**368.81**	**271.26**

Attachment E

Geotechnical Laboratory Test Results

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.0	19.9	78.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	98.7		
#30	98.7		
#50	95.9		
#100	87.3		
#200	78.1		

* (no specification provided)

Material Description

Dark brown in color. silt with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.1825 D_{85}= 0.1269 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ%MC=5.2
F.M.=0.19

Location: TP-1, 1'-3',
Sample Number: S-1 **Depth:** 1'-3' **Date:**

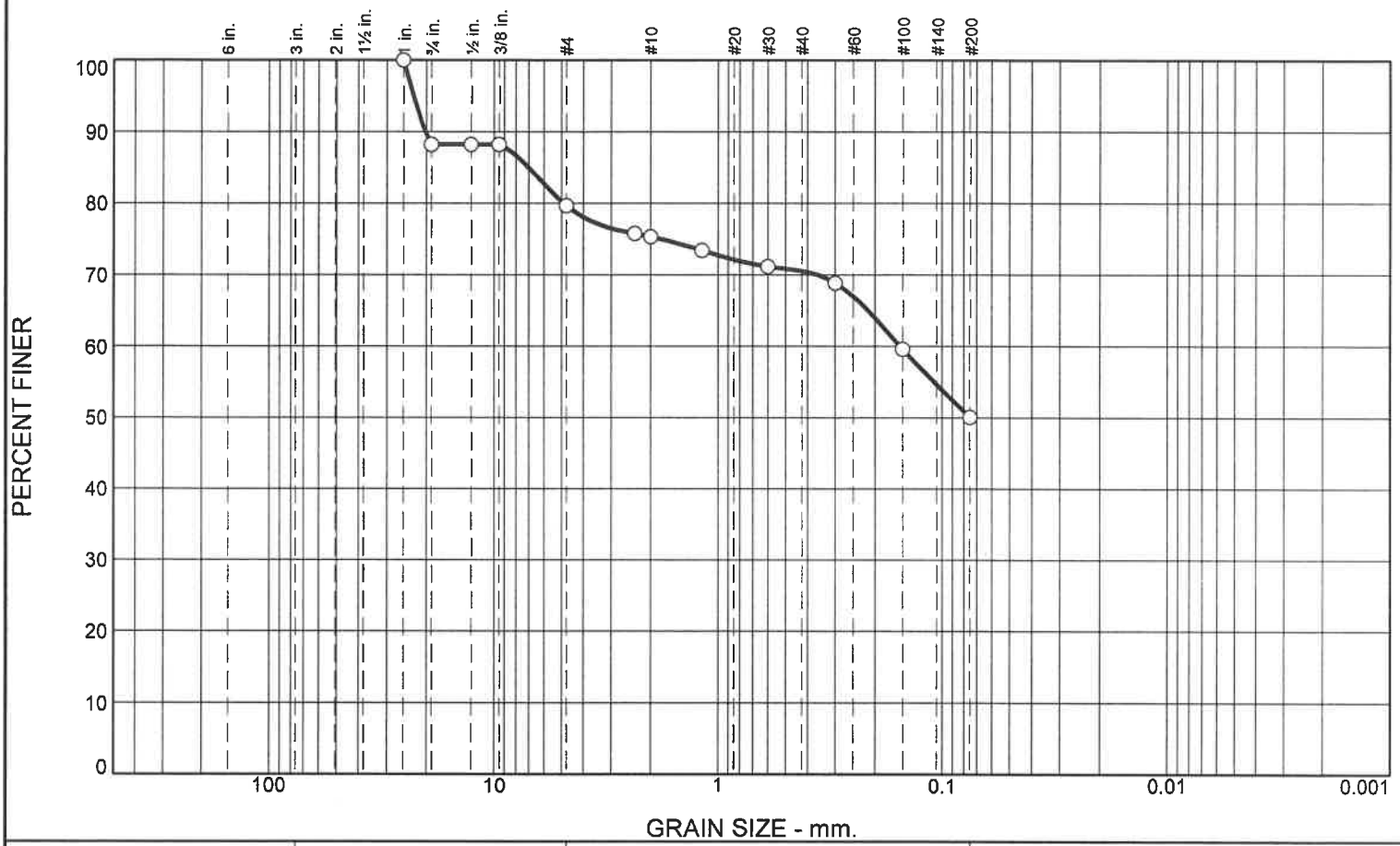
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 1 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.8	8.5	4.3	4.9	20.5	50.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
3/4	88.2		
1/2	88.2		
3/8	88.2		
#4	79.7		
#8	75.8		
#10	75.4		
#16	73.4		
#30	71.1		
#50	68.8		
#100	59.6		
#200	50.0		

* (no specification provided)

Material Description

sandy silt with gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 20.2907 D_{85}= 7.0202 D_{60}= 0.1542
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=6.0
F.M.=1.95

Location: B-9, S-1, 0'-2'
Sample Number: S-17 **Depth:** 0'-2' **Date:**

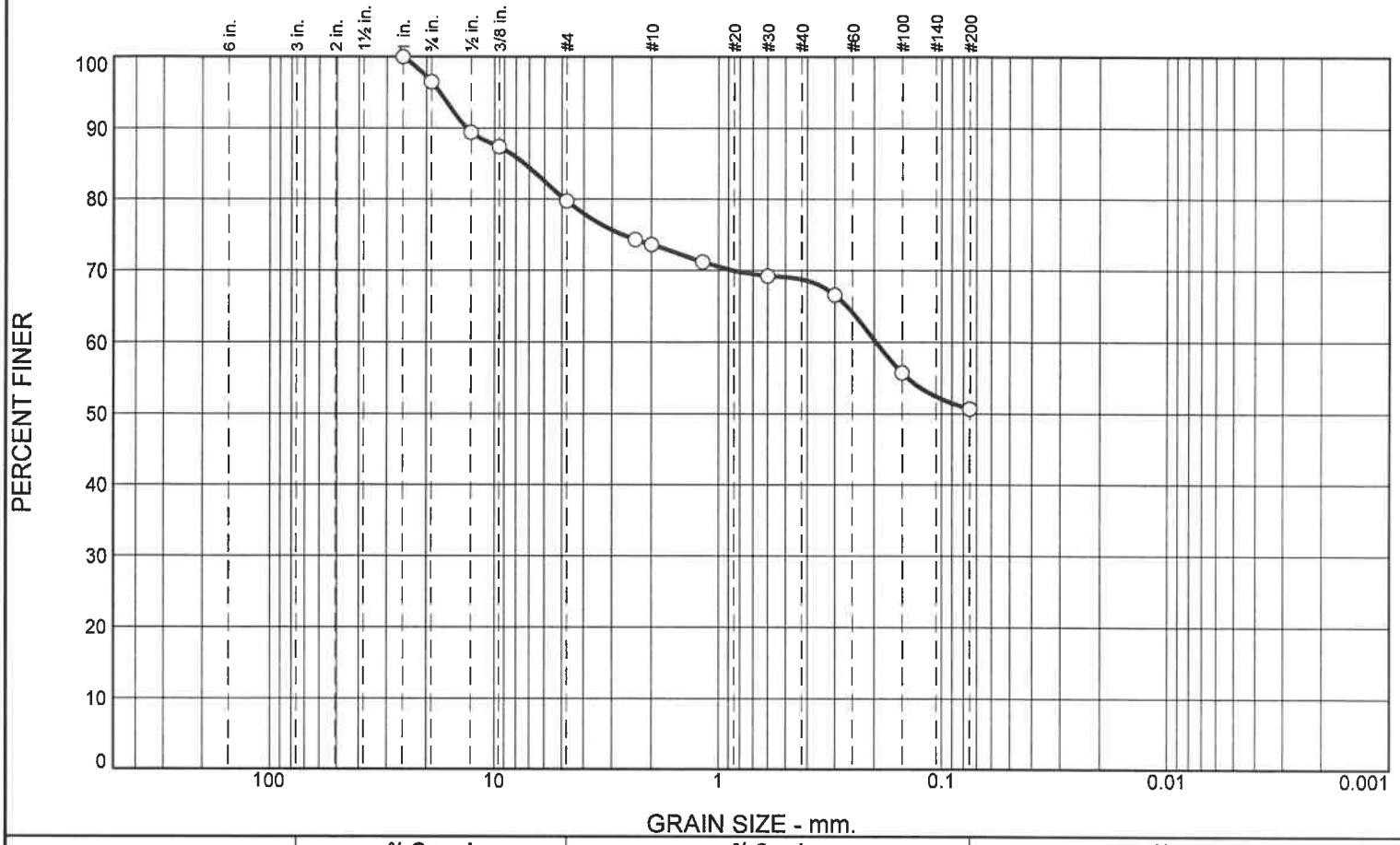
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 17 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.5	16.8	6.1	4.8	18.1	50.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
3/4	96.5		
1/2	89.4		
3/8	87.4		
#4	79.7		
#8	74.3		
#10	73.6		
#16	71.2		
#30	69.2		
#50	66.6		
#100	55.7		
#200	50.7		

* (no specification provided)

Material Description

sandy silt with gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 13.2849 D_{85}= 7.3600 D_{60}= 0.1962
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=6.8
F.M.=1.99

Location: B-11, 2'-4'
Sample Number: S-9 **Depth:** 2'-4' **Date:**

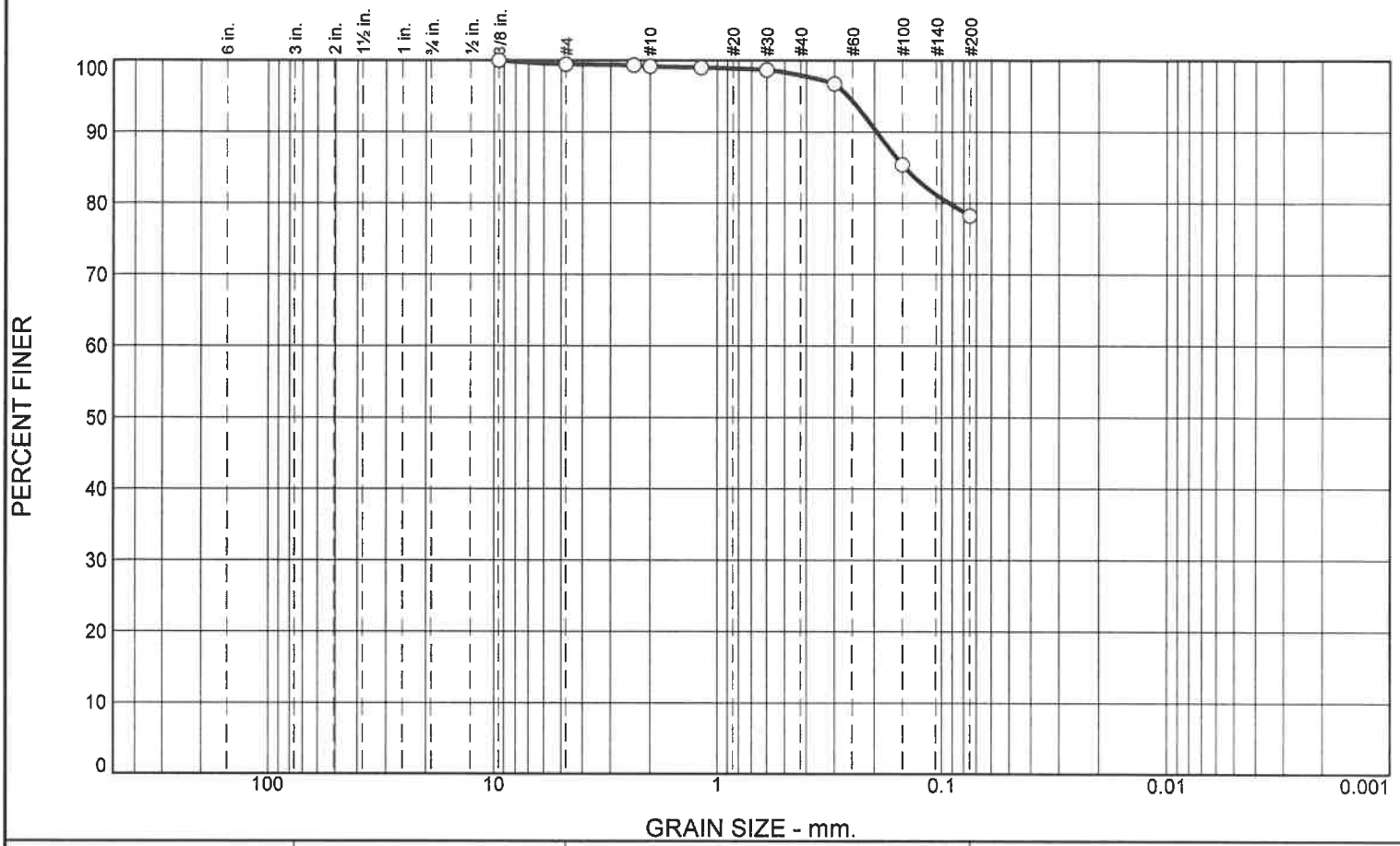
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 9 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	0.2	1.3	19.7	78.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	99.4		
#8	99.3		
#10	99.2		
#16	99.0		
#30	98.7		
#50	96.7		
#100	85.4		
#200	78.2		

* (no specification provided)

Material Description

silt with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.1954 D_{85}= 0.1460 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=4.7
F.M.=0.21

Location: B-14, S-1, 0'-2'
Sample Number: S-18 **Depth:** 0'-2' **Date:**

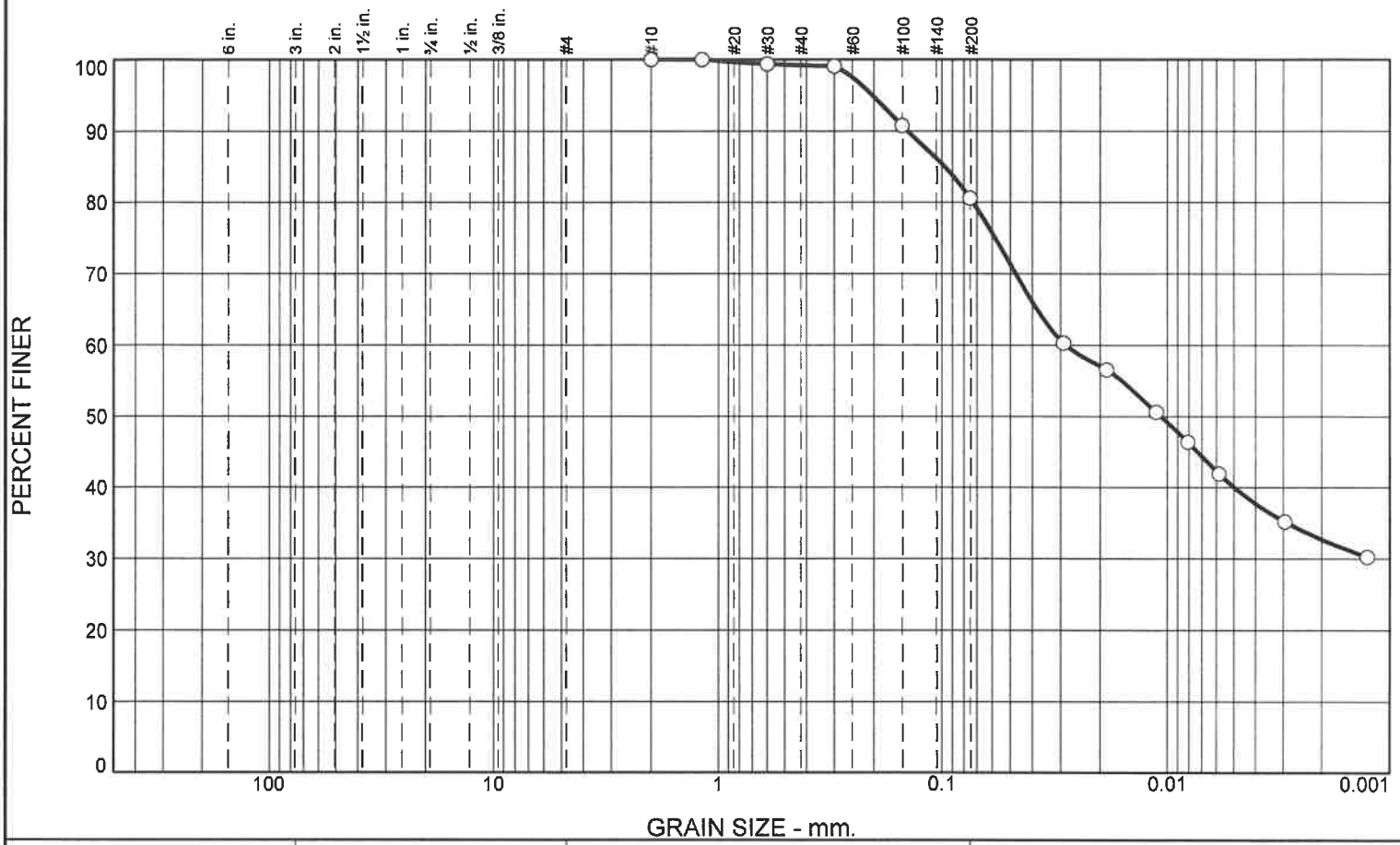
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 18 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.8	18.6	40.6	40.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	100.0		
#30	99.4		
#50	99.1		
#100	90.8		
#200	80.6		

* (no specification provided)

Material Description

silt with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.1418 D_{85}= 0.0974 D_{60}= 0.0285
D_{50}= 0.0107 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=4.6
F.M.=0.11

Location: B-16, S-1, 0'-2'
Sample Number: S-19 **Depth:** 0'-2' **Date:**

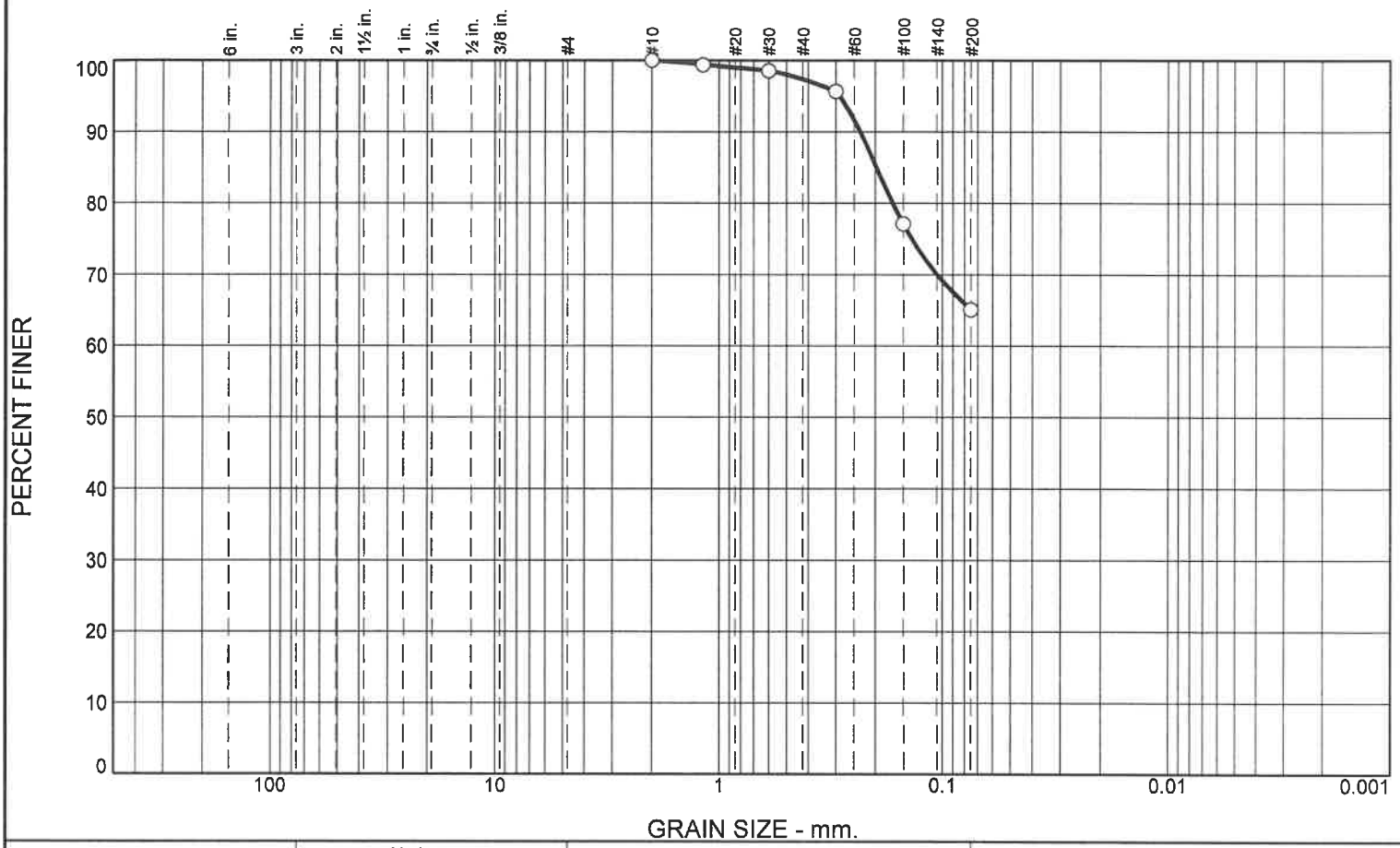
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 19 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	2.6	32.3	65.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	99.4		
#30	98.6		
#50	95.6		
#100	77.1		
#200	65.1		

* (no specification provided)

Material Description

sandy silt

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.2346 D_{85}= 0.1975 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=5.9
F.M.=0.29

Location: B-16, 1'-3'
Sample Number: S-12 **Depth:** 1'-4' **Date:**

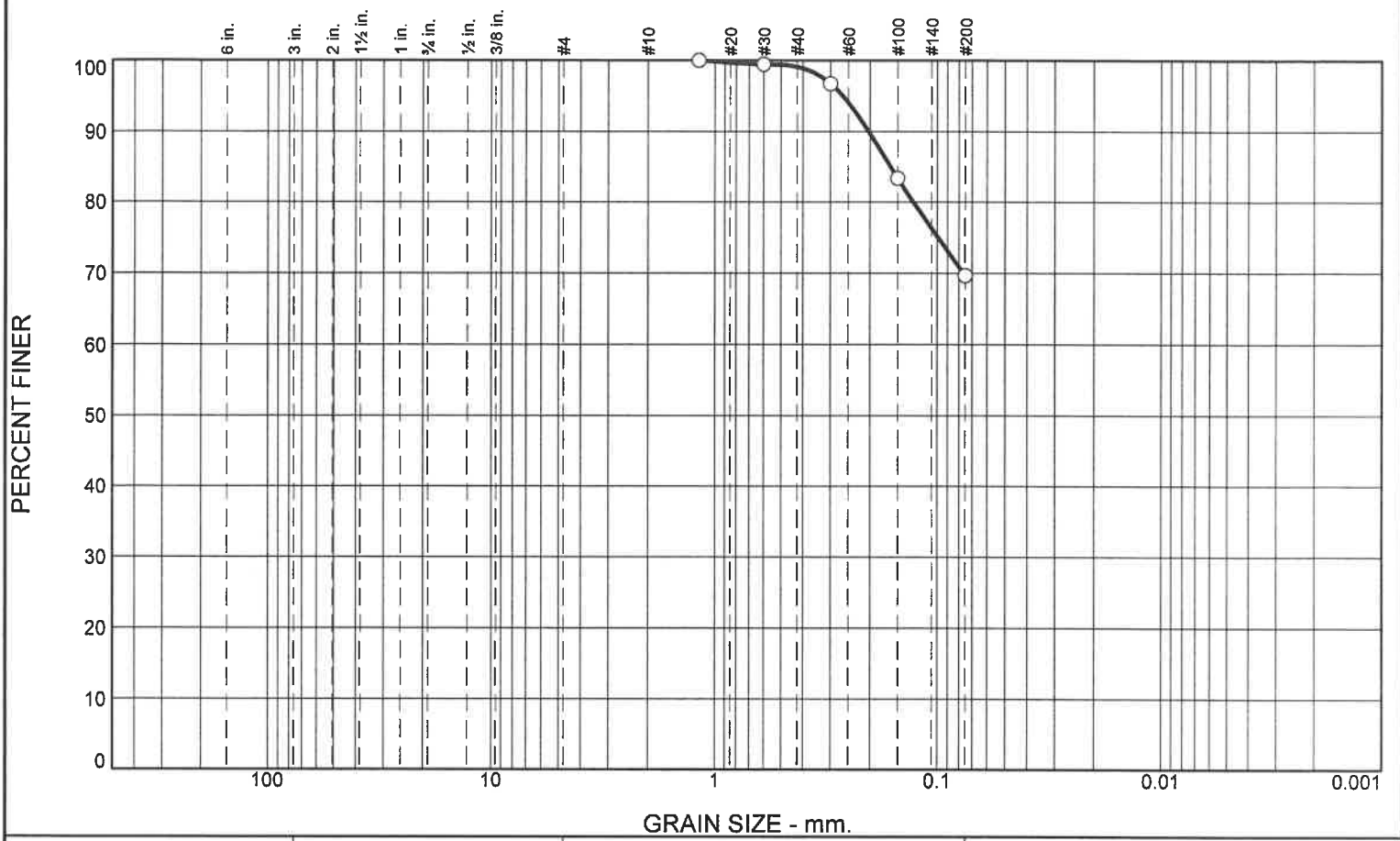
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 12 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.9	29.4	69.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#16	100.0		
#30	99.4		
#50	96.7		
#100	83.4		
#200	69.7		

* (no specification provided)

Material Description

In-Situ %MC=5.7

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.2032 D_{85}= 0.1616 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

F.M.=0.20

Location: TP-18, 1'-3'
Sample Number: S-4 **Depth:** 1'=-3' **Date:**

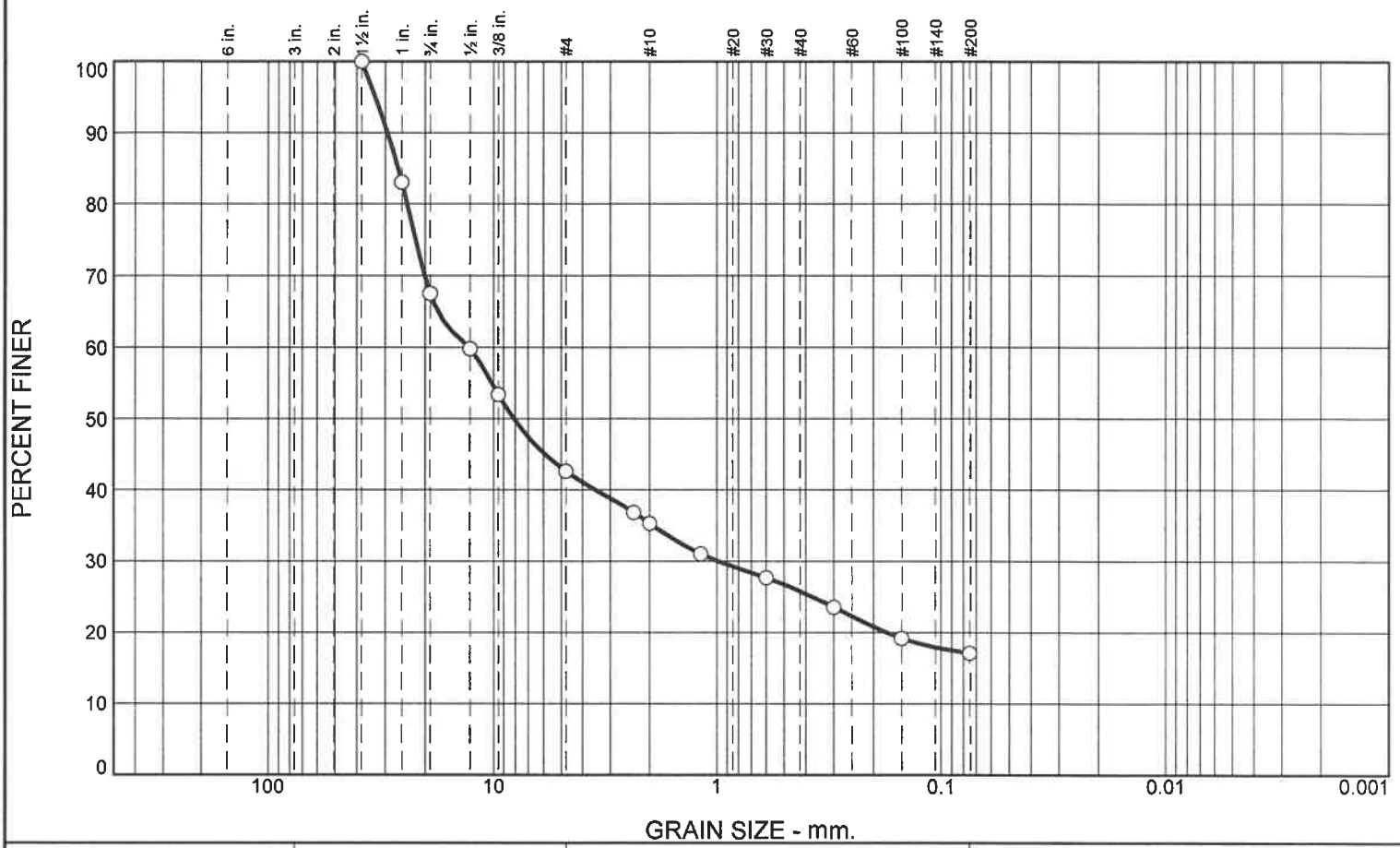
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 4 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	32.5	24.9	7.3	9.5	8.7	17.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	83.0		
3/4	67.5		
1/2	59.8		
3/8	53.4		
#4	42.6		
#8	36.8		
#10	35.3		
#16	31.0		
#30	27.7		
#50	23.6		
#100	19.2		
#200	17.1		

* (no specification provided)

Material Description

silty gravel with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 29.3336 D_{85}= 26.3731 D_{60}= 12.8669
D_{50}= 8.1162 D_{30}= 0.9829 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= GM AASHTO= A-1-b

Remarks

In-Situ %MC=6.1
F.M.=4.98

Location: B-23, S-4, 6'-8'
Sample Number: S-20 **Depth:** 6'-8' **Date:**

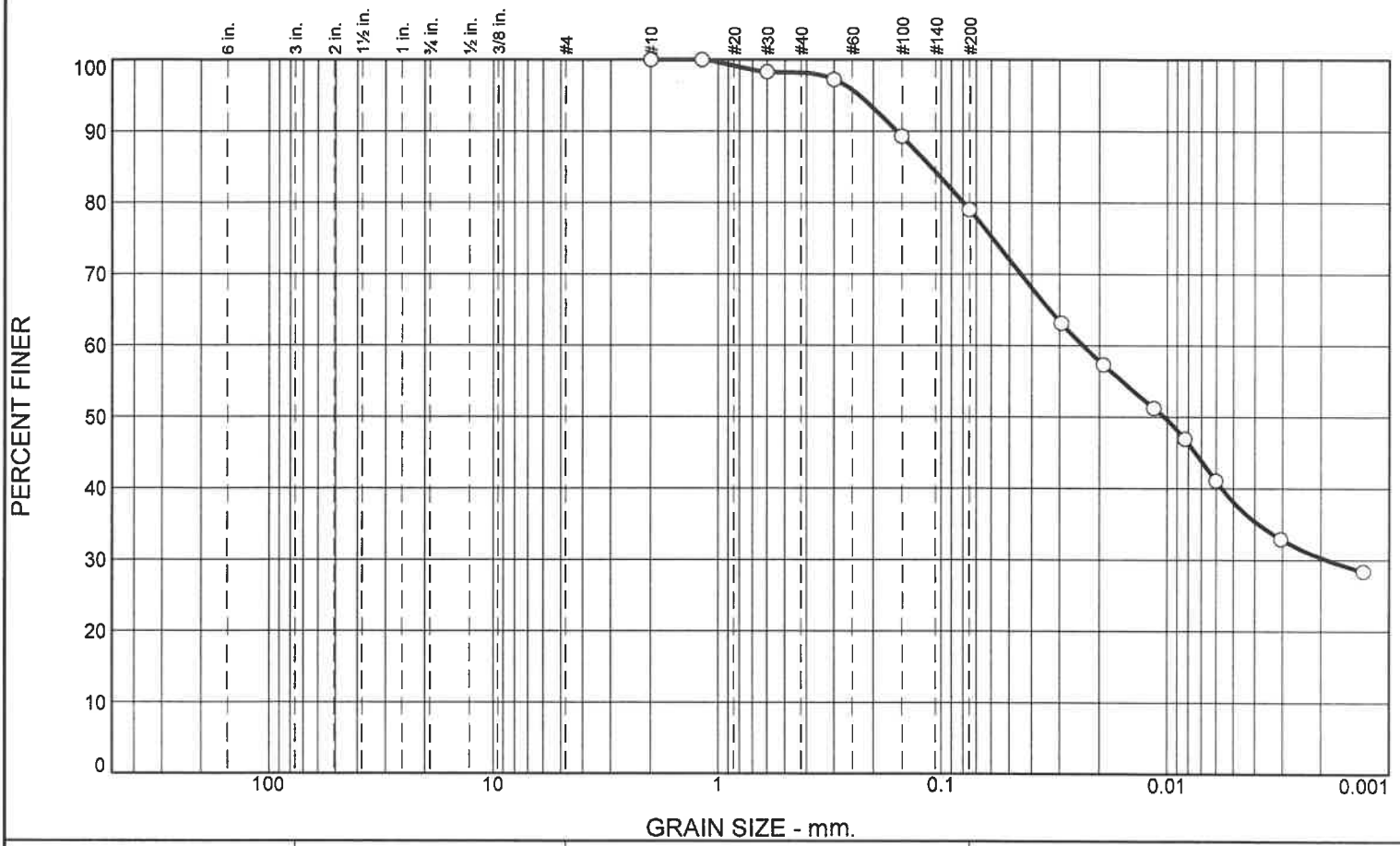
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 20 F 1**

Particle Size Distribution Report As per ASTM D-422



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.8	19.2	40.9	38.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#16	100.0		
#30	98.3		
#50	97.2		
#100	89.3		
#200	79.0		

* (no specification provided)

Material Description

silt with sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.1579 D_{85}= 0.1112 D_{60}= 0.0237
D_{50}= 0.0103 D_{30}= 0.0019 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

In-Situ %MC=7.5
F.M.=0.15

Location: B-SS-01, S-1, 0'-2'
Sample Number: S-21 **Depth:** 0'-2' **Date:**

ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

Project No: AOA-5632 **Figure 21 F 1**

CONSULTANTS, INC.
4405 South Clinton Avenue
South Plainfield, NJ 07080

Tel: (800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8633

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CERTIFICATE OF TEST ANALYSIS

CLIENT : ANS GEO Inc.
4405 South Clinton Avenue
South Plainfield, NJ 07080

DATE : 12/21/2020

FILE NO.: AOA 5632

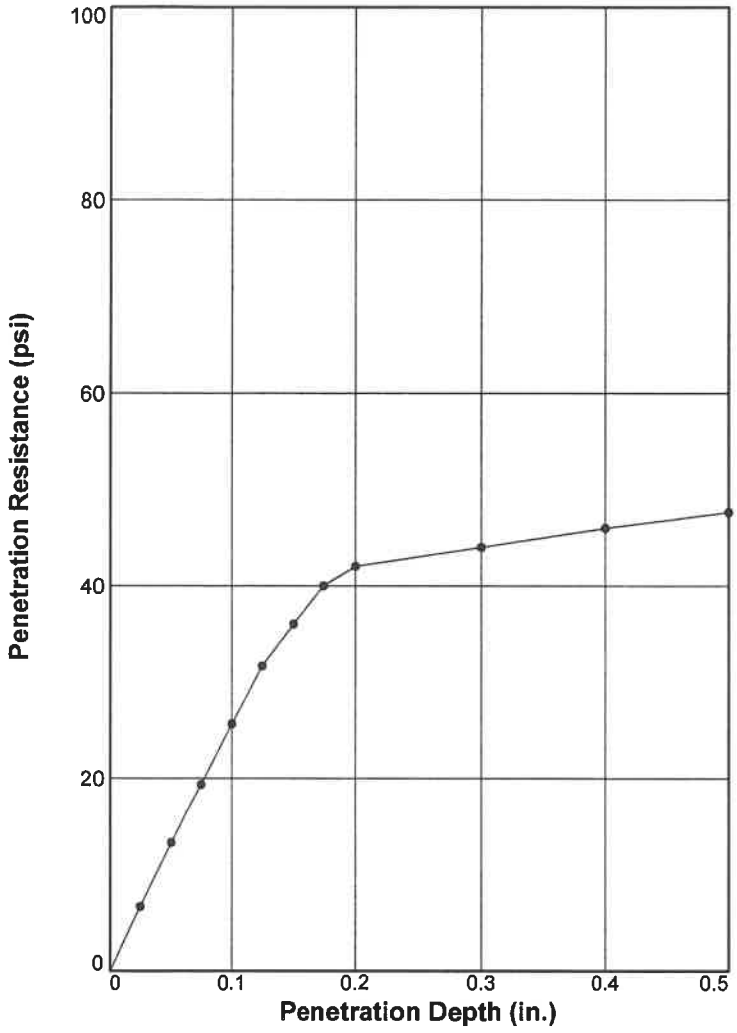
PROJECT : Cypress Creek
High Top Solar
Moxee, WA

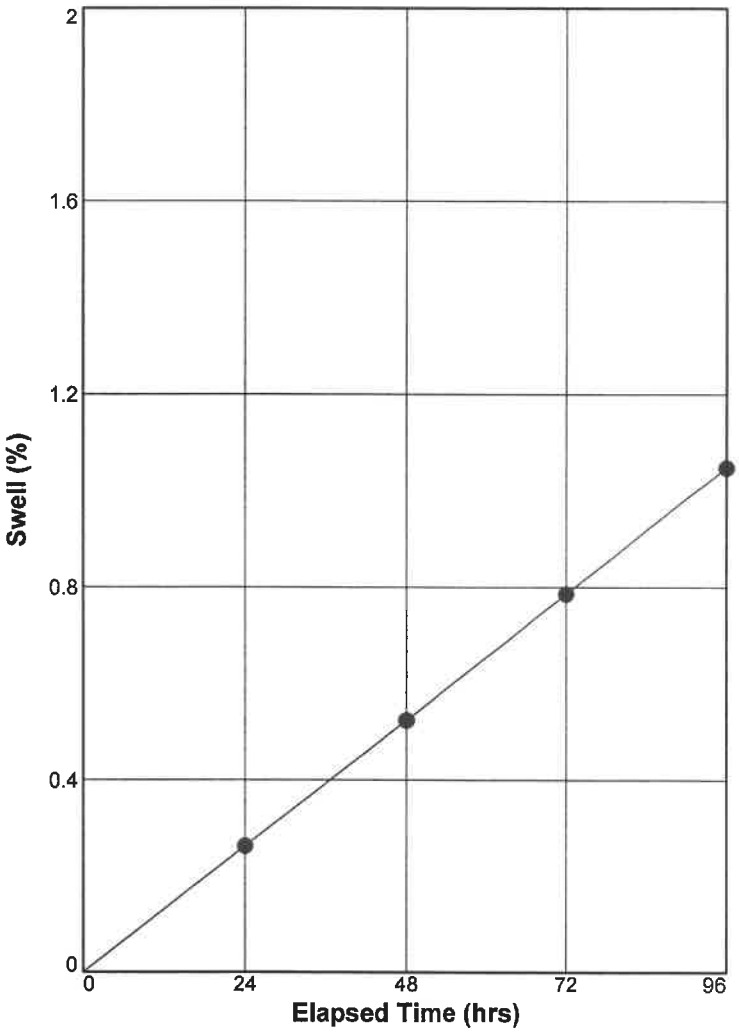
REPORT NO. : S-1,7,8,10-21

TEST PERFORMED : Standard Test Method for Moisture Content as per **ASTM-D 2216**

Report No.	Sample ID	Moisture Content %
S - 1	TP-1, Bulk, 1'-3'	5.2
S - 7	B-3, bulk, 1'-3'	4.9
S - 8	B-9, Bulk, 1'-3'	5.6
S - 10	B-14, Bulk, 1'-3'	4.7
S - 11	B-15, Bulk, 1'-3'	5.9
S -12	B-16, Bulk 1'-3'	5.3
S - 13	B-17, Bulk, 1'-3'	5.4
S -14	B-19, Bulk, 1'-3'	6.3
S -15	B-23, Bulk, 1'0-3'	4.7
S - 16	B-25, Bulk, 1-'3'	2.6
S - 17	B-9, S-1,, 0'-2', bag	6.0
S -18	B-14, S-1, 0'-2', bag	4.7
S -19	B-16, S-1, 0'-2'	4.6
S - 20	B-23, S-4, 6'-8'	14.7
S - 21	B-SS-01, S-1, 0'-2'	7.5

BEARING RATIO TEST REPORT
ASTM D 1883-07





	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	90.1	85.4	14.3	89.2	84.6	25.6	2.6	2.8	0.000	10	1
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Dark brown in color. silt with sand	ML	105.5	14.3	NV	NP

Project No: AOA-5632

Project: Cypres Creek, High Top Solar, Moxee, WA

Location: TP-1, 1'-3',

Sample Number: S-1 **Depth:** 1'-3'

Date:

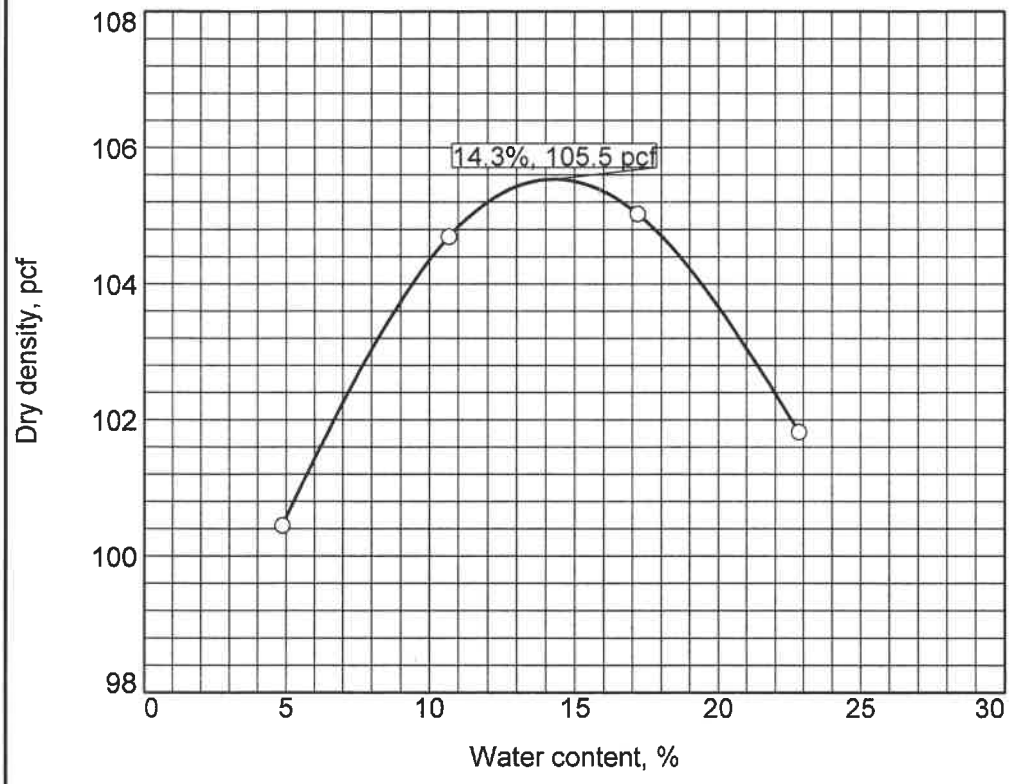
Test Description/Remarks:

BEARING RATIO TEST REPORT

ANS CONSULTANTS, INC.

Figure 1 F 4

COMPACTION TEST REPORT



Curve No.
S-1

Test Specification:
ASTM D 698-12 Method A Standard

Preparation Method _____
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 25
Mold Size 0.03333 cu. ft.

Test Performed on Material Passing #4 **Sieve**

NM _____ **LL** NV **PI** NP
Sp.G. (ASTM D 854) _____
%>#4 0.0 **%<No.200** 78.1
USCS ML **AASHTO** A-4(0)
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	12.94	13.29	13.53	13.59		
WM	9.43	9.43	9.43	9.43		
WW + T #1	858.6	883.0	893.4	1031.1		
WD + T #1	818.8	797.8	762.4	839.4		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	4.9	10.7	17.2	22.8		
DRY DENSITY	100.4	104.7	105.0	101.8		

TEST RESULTS

Maximum dry density = 105.5 pcf

Optimum moisture = 14.3 %

Material Description

Dark brown in color. silt with sand

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-1, 1'-3', **Depth:** 1'-3' **Sample Number:** S-1

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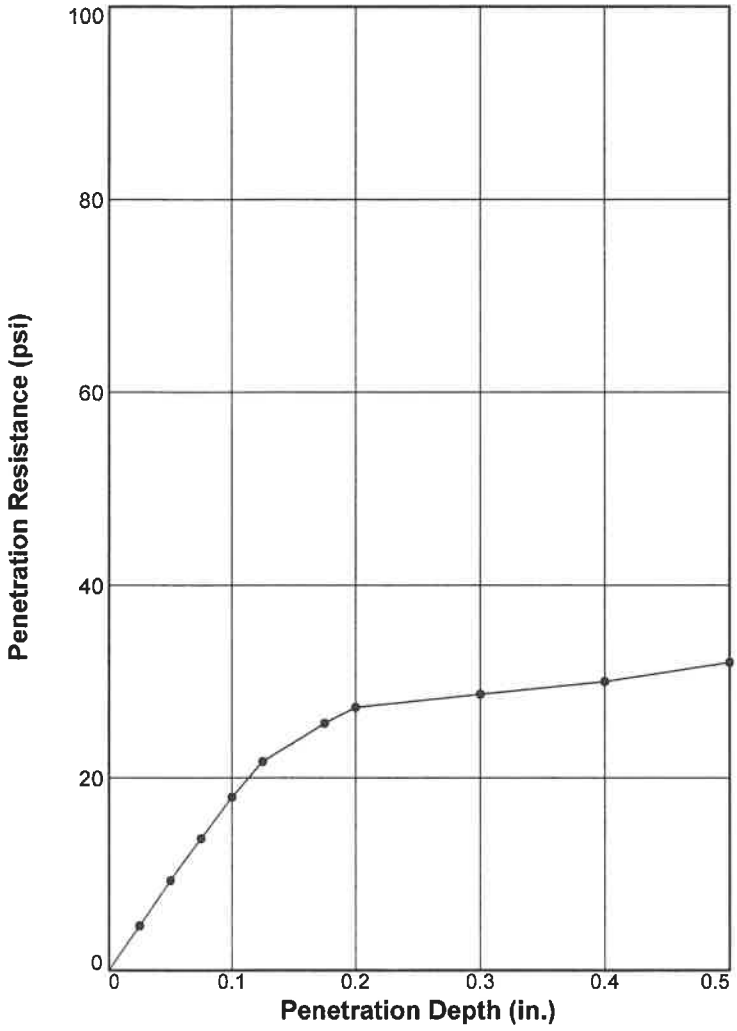
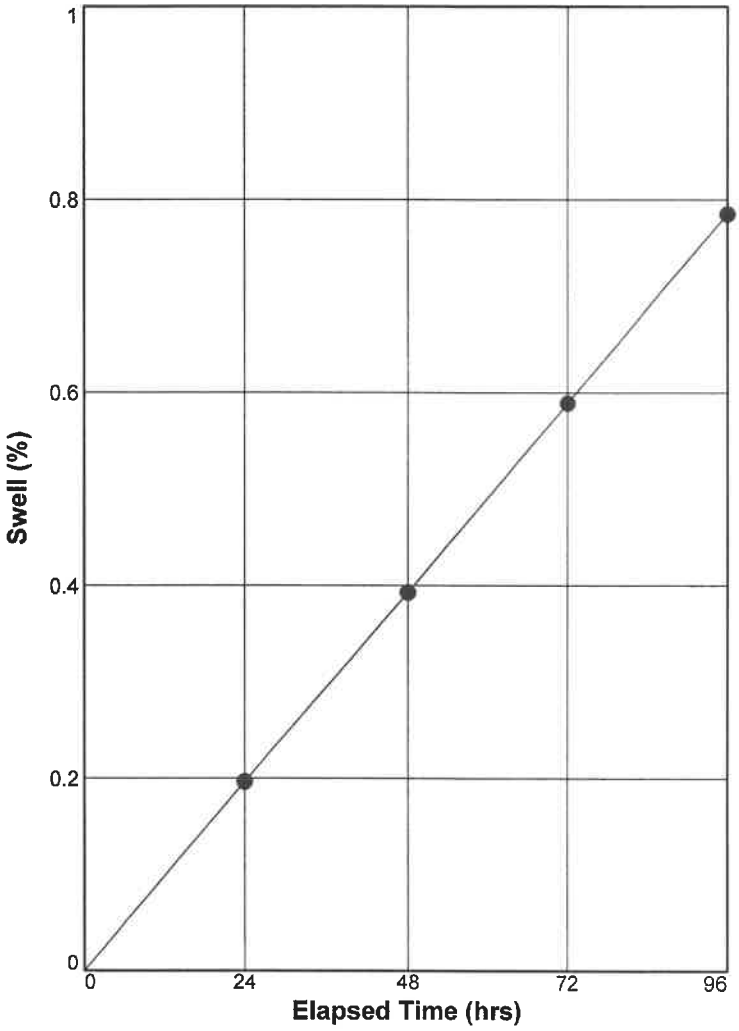
Checked by:
Title:

Figure 1 F 2

BEARING RATIO TEST REPORT
ASTM D 1883-07





	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	90.5	85.4	16.9	89.8	84.8	25.6	1.8	1.8	0.000	10	0.8
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
sandy silt	ML	106.0	16.9	NV	NP

Project No: AOA-5632

Project: Cypres Creek, High Top Solar, Moxee, WA

Location: B-16, 1'-3'

Sample Number: S-12 **Depth:** 1'-4'

Date:

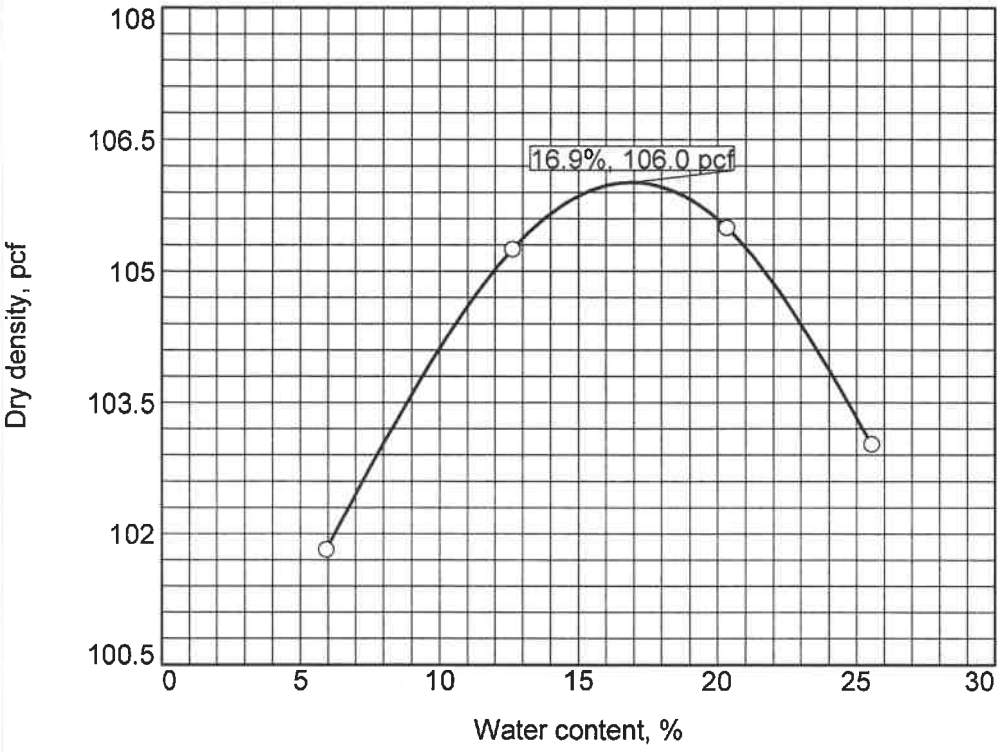
BEARING RATIO TEST REPORT

ANS CONSULTANTS, INC.

Test Description/Remarks:

Figure 12 F 4

COMPACTION TEST REPORT



Curve No.
S-12

Test Specification:
ASTM D 698-12 Method B Standard

Preparation Method
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 25
Mold Size 0.03333 cu. ft.

Test Performed on Material Passing 3/8 in. **Sieve**

NM **LL** NV **PI** NP
Sp.G. (ASTM D 854)
%>3/8 in. 0.0 **%<No.200** 65.1
USCS ML **AASHTO** A-4(0)
Date Sampled
Date Tested
Tested By

TESTING DATA

	1	2	3	4	5	6
WM + WS	13.02	13.38	13.66	13.74		
WM	9.43	9.43	9.43	9.43		
WW + T #1	672.7	591.3	835.3	733.3		
WD + T #1	635.0	525.0	694.2	584.1		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	5.9	12.6	20.3	25.5		
DRY DENSITY	101.8	105.3	105.5	103.0		

TEST RESULTS

Maximum dry density = 106.0 pcf

Optimum moisture = 16.9 %

Material Description

sandy silt

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** B-16, 1'-3' **Depth:** 1'-4' **Sample Number:** S-12

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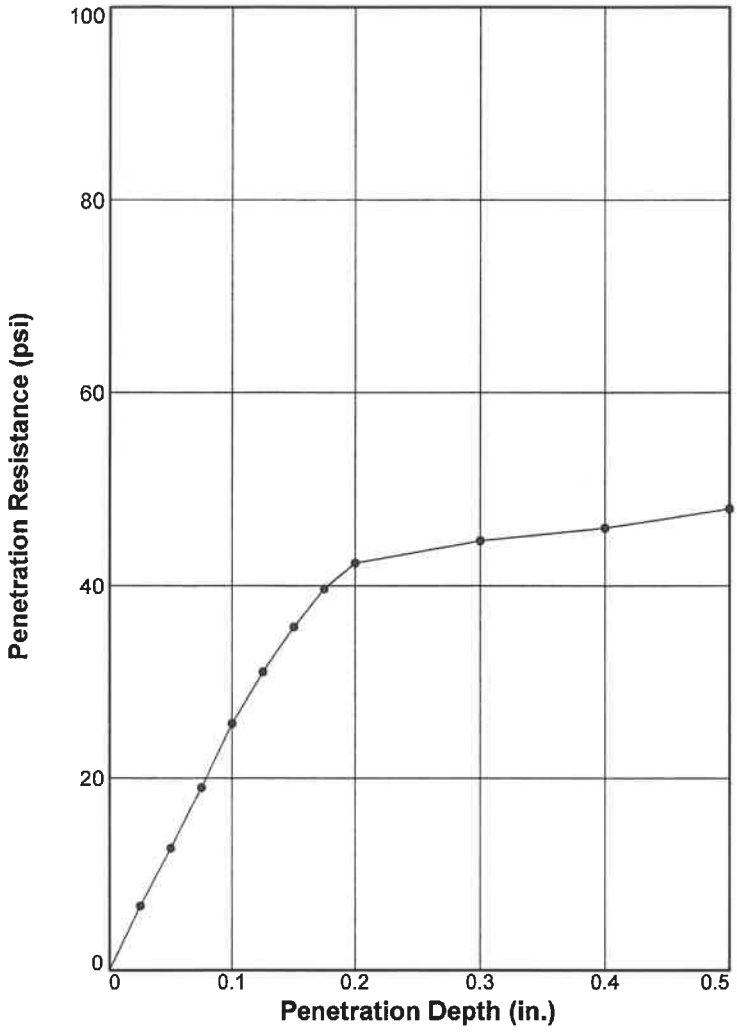
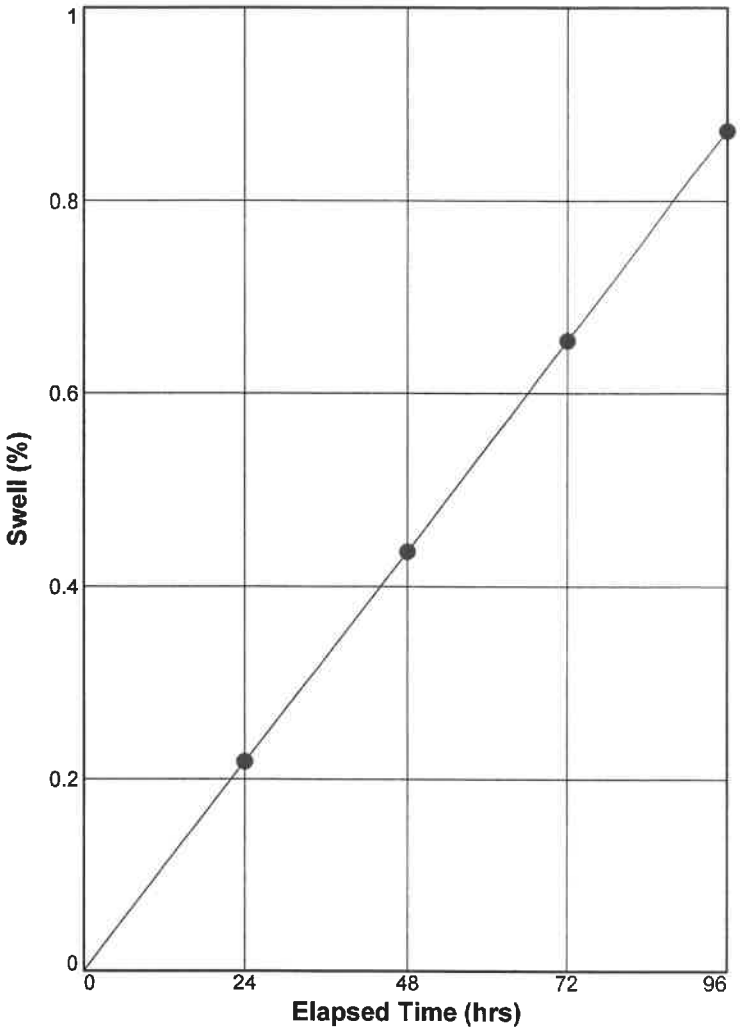
Title:

Figure 12 F 2

BEARING RATIO TEST REPORT
ASTM D 1883-07





	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	91.8	85.3	16.3	91.0	84.6	23.4	2.6	2.8	0.000	10	0.9
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
		107.6	16.3		

Project No: AOA-5632

Project: Cypres Creek, High Top Solar, Moxee, WA

Location: TP-20, 1'-3'

Sample Number: S-5 **Depth:** 1'-3'

Date:

Test Description/Remarks:

BEARING RATIO TEST REPORT

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Figure 5 F 4

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

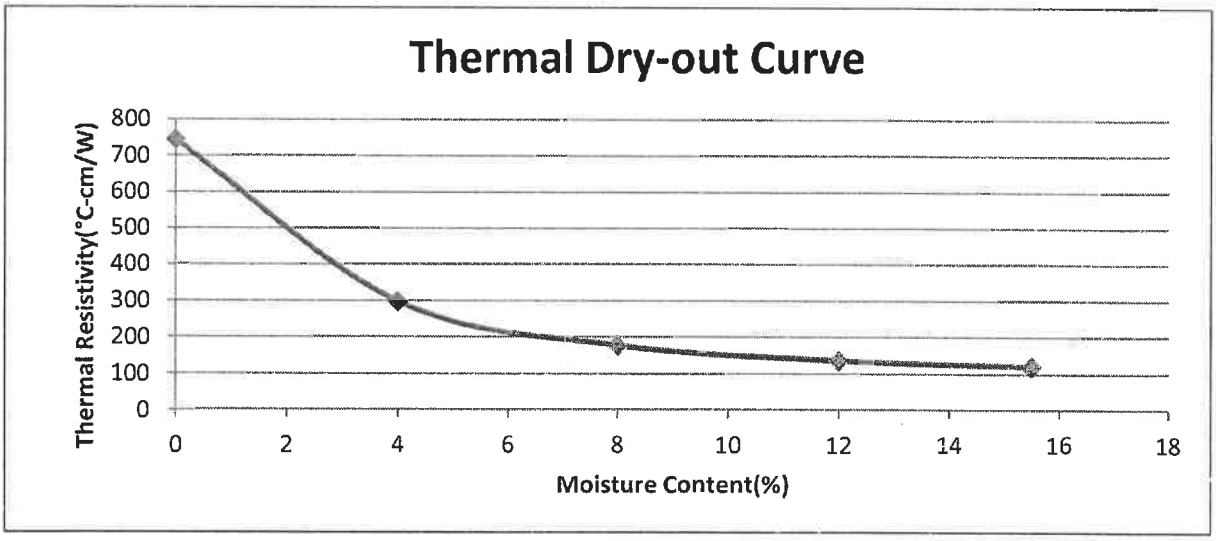
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-2

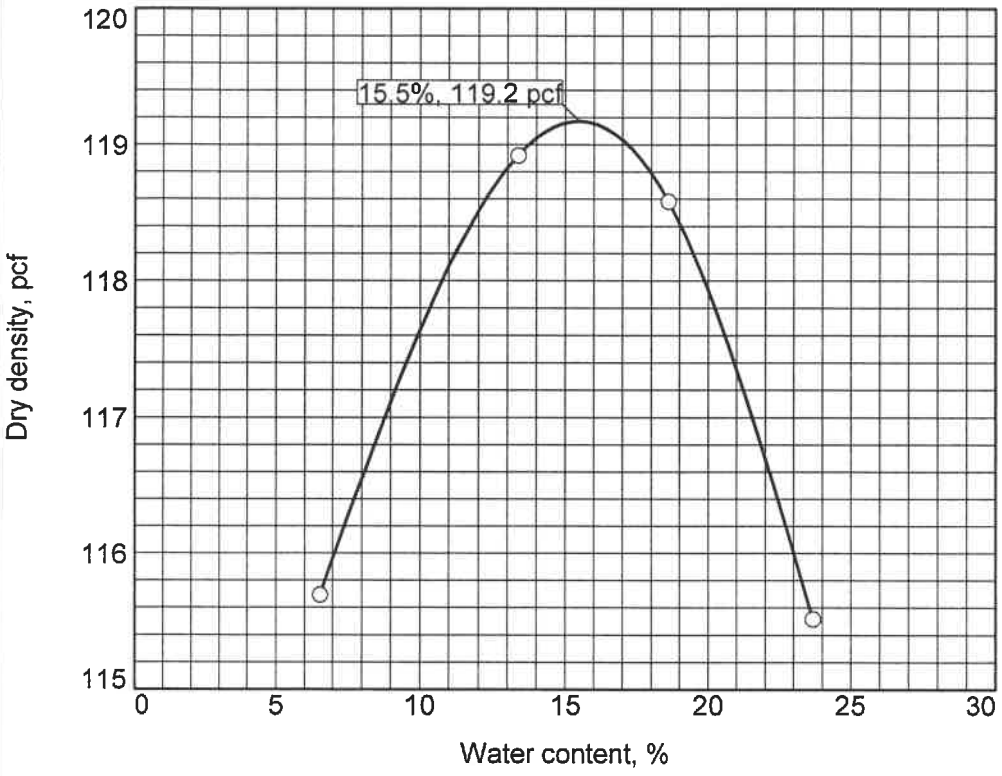
Test Data- Sample No. S-2 (TP-02, Bulk, 1'-2.5')

Standard Proctor Value: 109.2
Remolded Dry Density: 92.82 (85%)
Optimum Moisture Content: 15.5%
In-Situ Moisture Content: 3.75%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	25.6	746
4	25.2	298
8	25	177
12	24.8	136
15.5	24.7	120



COMPACTION TEST REPORT



Curve No.
S-2

Test Specification:
ASTM D 1557-12 Method C Modified

Preparation Method	
Hammer Wt.	10 lb.
Hammer Drop	18 in.
Number of Layers	five
Blows per Layer	56
Mold Size	0.075 cu. ft.

Test Performed on Material Passing 3/4 in. **Sieve**

NM _____ **LL** _____ **PI** _____
Sp.G. (ASTM D 854) _____
%>3/4 in. _____ **%<No.200** _____
USCS _____ **AASHTO** _____
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	21.99	22.86	23.30	23.46		
WM	12.75	12.75	12.75	12.75		
WW + T #1	592.1	781.3	685.3	777.2		
WD + T #1	555.7	689.2	577.8	628.4		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	6.6	13.4	18.6	23.7		
DRY DENSITY	115.7	118.9	118.6	115.5		

TEST RESULTS

Maximum dry density = 119.2 pcf

Optimum moisture = 15.5 %

Material Description

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-2, 1'-2.5' **Depth:** 1'-2.5' **Sample Number:** S-2

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Figure 2 F 2

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

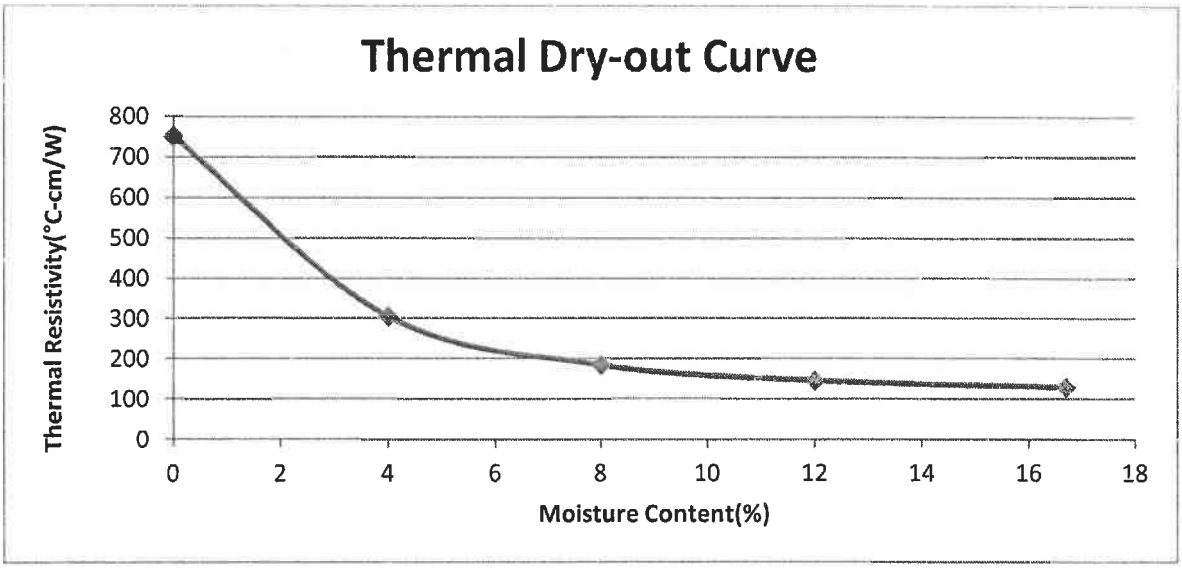
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-3

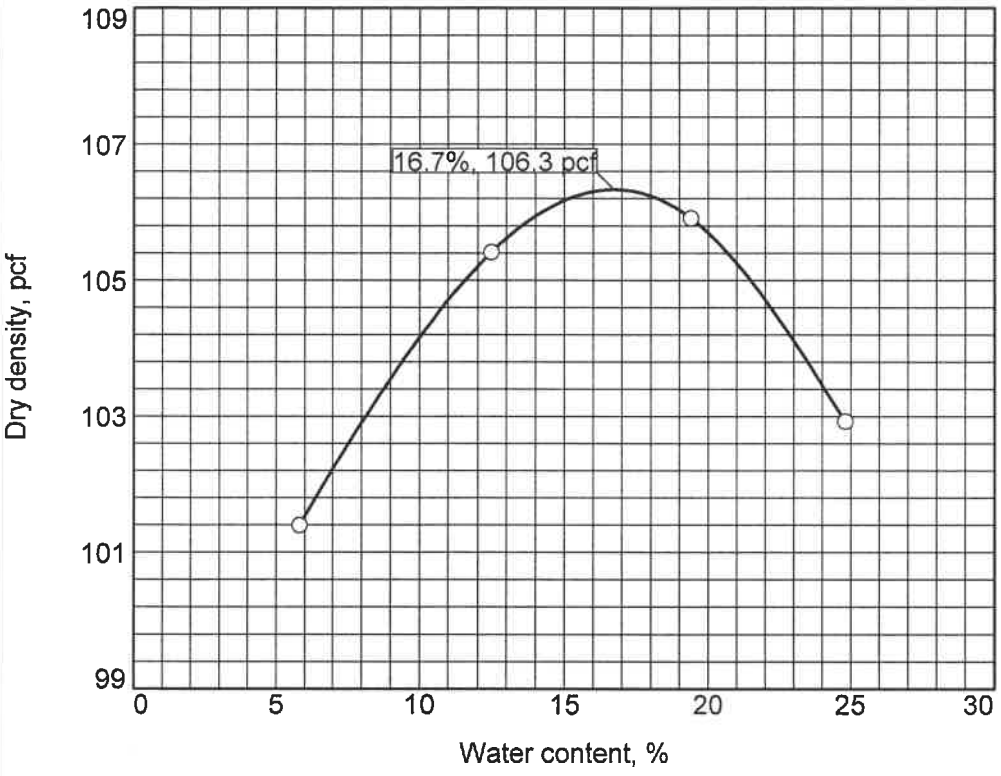
Test Data- Sample No. S-3 (TP-06, Bulk, 1'-3')

Standard Proctor Value: 106.3
Optimum Moisture Content: 16.7%
Remolded Dry Density: 90.355(85%)
In-Situ Moisture Content: 3.5%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	26.9	752
4	26.3	305
8	25.8	184
12	25.5	146
16.7	25.3	129



COMPACTION TEST REPORT



Curve No.
S-3

Test Specification:
ASTM D 1557-12 Method C Modified

Preparation Method _____
Hammer Wt. 10 lb.
Hammer Drop 18 in.
Number of Layers five
Blows per Layer 56
Mold Size 0.075 cu. ft.
Test Performed on Material Passing 3/4 in. **Sieve**

NM _____ **LL** _____ **PI** _____
Sp.G. (ASTM D 854) _____
%>3/4 in. _____ **%<No.200** _____
USCS _____ **AASHTO** _____
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	21.79	22.64	23.23	23.38		
WM	13.75	13.75	13.75	13.75		
WW + T #1	628.3	873.7	788.9	781.5		
WD + T #1	593.8	776.8	660.7	626.2		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	5.8	12.5	19.4	24.8		
DRY DENSITY	101.4	105.4	105.9	102.9		

TEST RESULTS

Maximum dry density = 106.3 pcf

Optimum moisture = 16.7 %

Material Description

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-6, 1'-3' **Depth:** 1'-3' **Sample Number:** S-3

Checked by:
Title:

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Figure 3 F 2

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

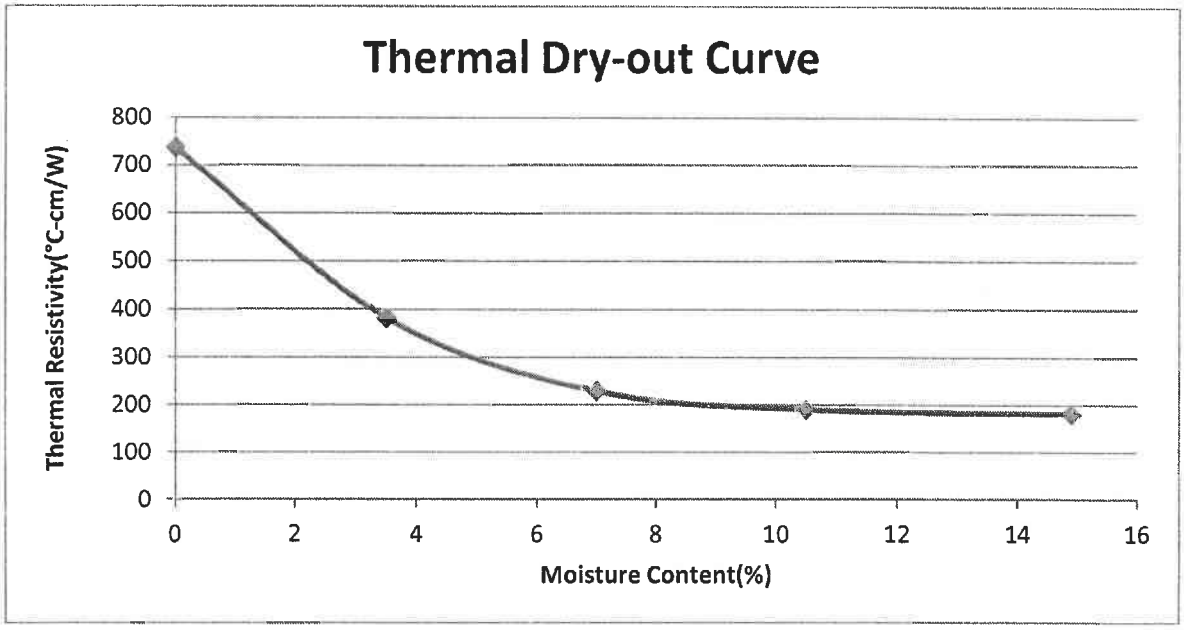
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-9

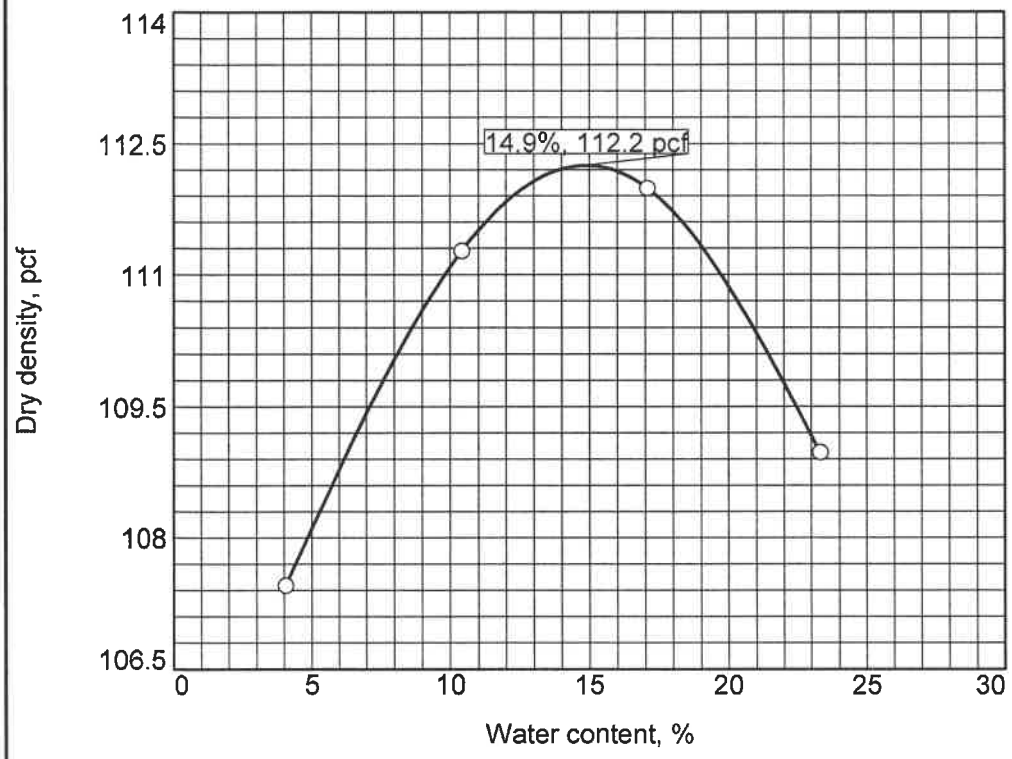
Test Data- Sample No. S-9 (B-11, Bulk, 2'-4')

Standard Proctor Value: 112.2
Optimum Moisture Content: 14.9%
Remolded Dry Density: 95.37 (85%)
In-Situ Moisture Content: 6.51%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	25	738
3.5	24.8	382
7	24.5	228
10.5	24.2	190
14.9	24.1	181



COMPACTION TEST REPORT



Curve No.
S-9

Test Specification:
ASTM D 1557-12 Method C Modified

Preparation Method _____
Hammer Wt. 10 lb.
Hammer Drop 18 in.
Number of Layers five
Blows per Layer 56
Mold Size 0.075 cu. ft.
Test Performed on Material Passing 3/4 in. **Sieve**

NM _____ **LL** NV **PI** NP
Sp.G. (ASTM D 854) _____
%>3/4 in. 3.5 **%<No.200** 50.7
USCS ML **AASHTO** A-4(0)
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	22.13	22.96	23.58	23.84		
WM	13.75	13.75	13.75	13.76		
WW + T #1	859.7	852.9	933.8	825.5		
WD + T #1	826.2	772.4	797.6	669.4		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	4.1	10.4	17.1	23.3		
DRY DENSITY	107.5	111.3	112.0	109.0		

TEST RESULTS

Maximum dry density = 112.2 pcf

Optimum moisture = 14.9 %

Material Description

sandy silt with gravel

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** B-11, 2'-4' **Depth:** 2'-4' **Sample Number:** S-9

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Figure 9 F 2

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

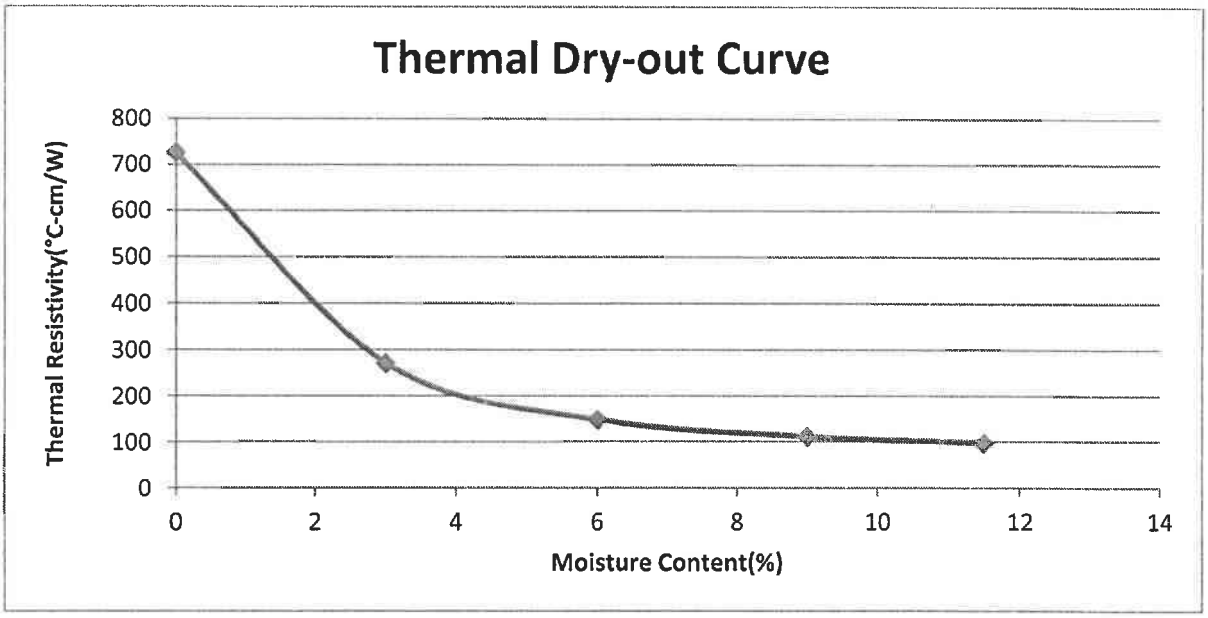
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-4

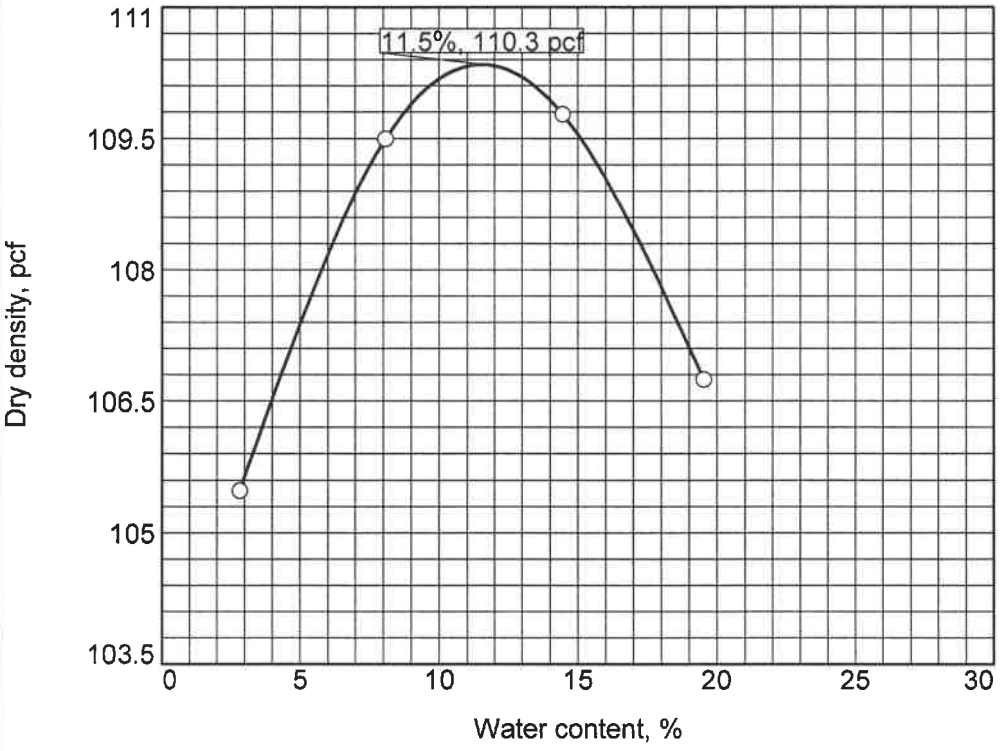
Test Data- Sample No. S-4 (TP-18, Bulk, 1'-2.5')

Standard Proctor Value: 110.3
Optimum Moisture Content: 11.5%
Remolded Dry Density: 93.755 (85%)
In-Situ Moisture Content: 4.29%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	25.7	726
3	25.2	271
6	24.8	148
9	24.6	110
11.5	24.3	96



COMPACTION TEST REPORT



Curve No.
S-4

Test Specification:
ASTM D 698-12 Method A Standard

Preparation Method _____
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 25
Mold Size 0.03333 cu. ft.

Test Performed on Material Passing #4 **Sieve**

NM _____ **LL** NV **PI** NP
Sp.G. (ASTM D 854) _____
%>#4 0.0 **%<No.200** 69.7
USCS ML **AASHTO** A-4(0)
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	13.04	13.37	13.61	13.68		
WM	9.43	9.43	9.43	9.43		
WW + T #1	642.8	624.6	848.3	863.3		
WD + T #1	625.1	577.9	741.2	722.3		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	2.8	8.1	14.4	19.5		
DRY DENSITY	105.5	109.5	109.8	106.7		

TEST RESULTS

Maximum dry density = 110.3 pcf

Optimum moisture = 11.5 %

Material Description

In-Situ %MC=5.7

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-18, 1'-3' **Depth:** 1'=-3' **Sample Number:** S-4

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Figure 4 F 2

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

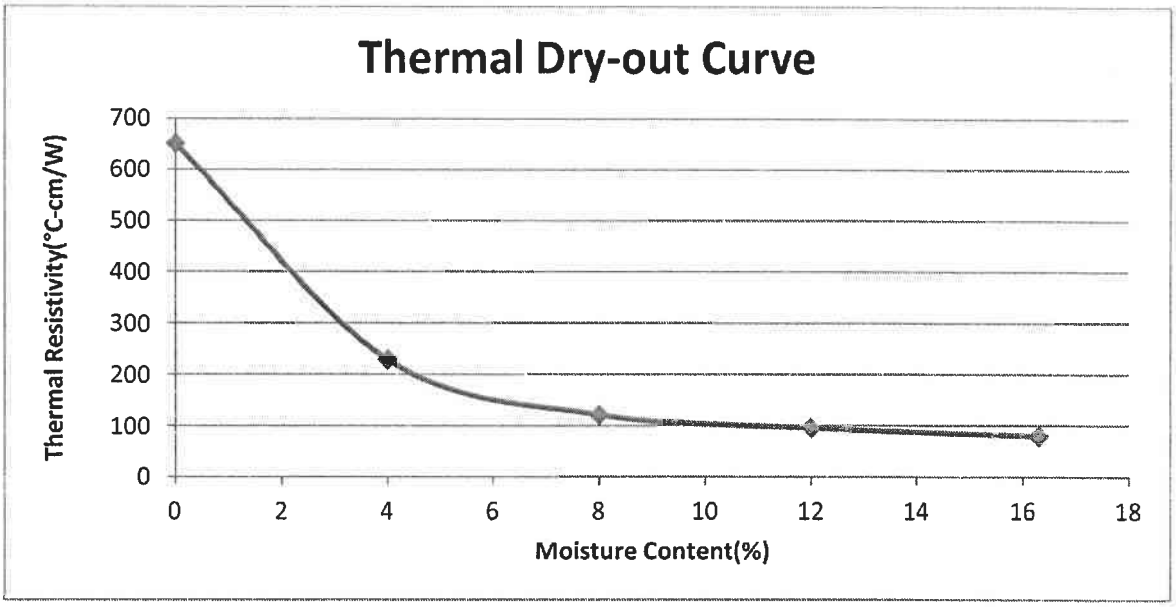
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-5

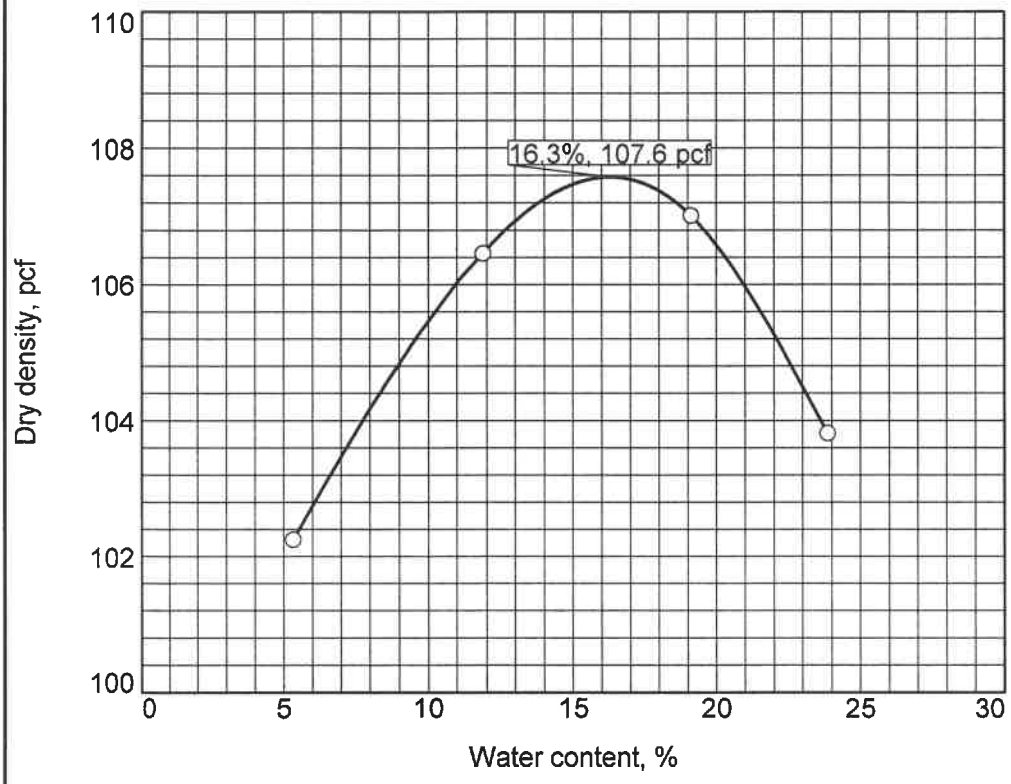
Test Data- Sample No. S-5 (TP-20, Bulk, 1'-3')

Standard Proctor Value: 107.6
Optimum Moisture Content: 16.3%
Remolded Dry Density: 91.46 (85%)
In-Situ Moisture Content: 5.55%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	25.6	652
4	25	229
8	24.7	122
12	24.5	95
16.3	24.3	79



COMPACTION TEST REPORT



Curve No.
S-5

Test Specification:
ASTM D 698-12 Method A Standard

Preparation Method _____
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 25
Mold Size 0.03333 cu. ft.
Test Performed on Material Passing #4 **Sieve**

NM _____ **LL** _____ **PI** _____
Sp.G. (ASTM D 854) _____
%>#4 _____ **%<No.200** _____
USCS _____ **AASHTO** _____
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	13.01	13.39	13.67	13.71		
WM	9.43	9.43	9.43	9.43		
WW + T #1	706.5	674.8	890.7	897.3		
WD + T #1	670.8	603.2	747.8	724.5		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	5.3	11.9	19.1	23.9		
DRY DENSITY	102.2	106.5	107.0	103.8		

TEST RESULTS

Maximum dry density = 107.6 pcf

Optimum moisture = 16.3 %

Material Description

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-20, 1'-3' **Depth:** 1'-3' **Sample Number:** S-5

ANS CONSULTANTS, INC.

South Plainfield, New Jersey

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Title:

Figure 5 F 2

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THERMAL CONDUCTIVITY OF SOIL & SOFT ROCK BY THERMAL NEEDLE PROBE -IEEE 442

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite#A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

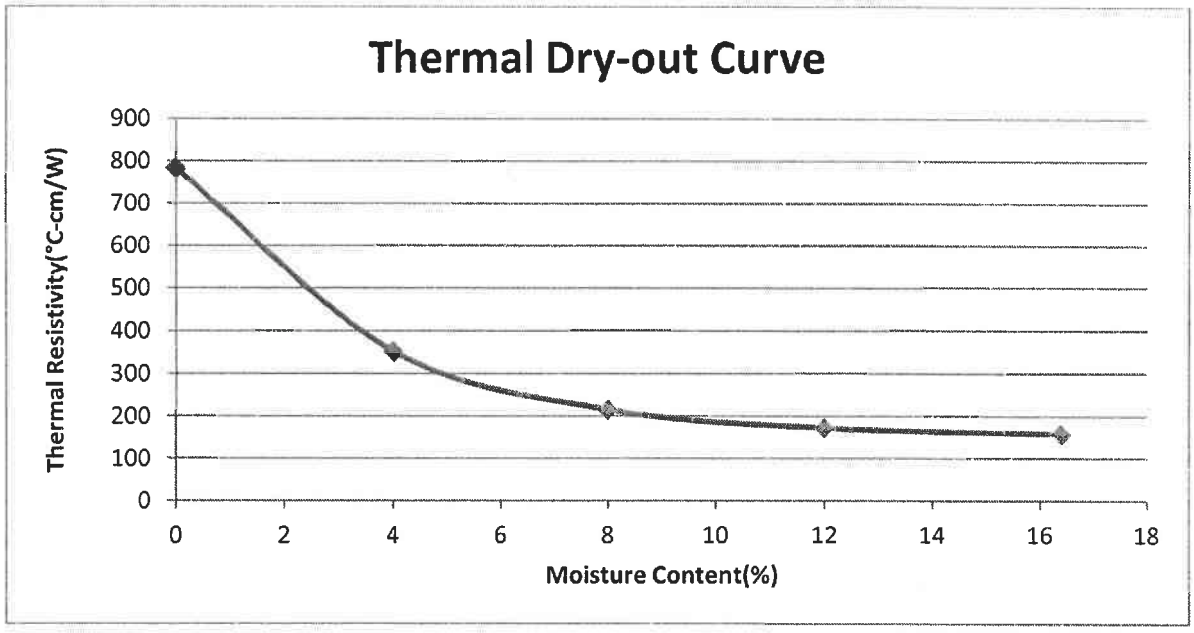
PROJECT: Cypress Creek-High Top Solar
Moxee, WA

REPORT NO: S-6

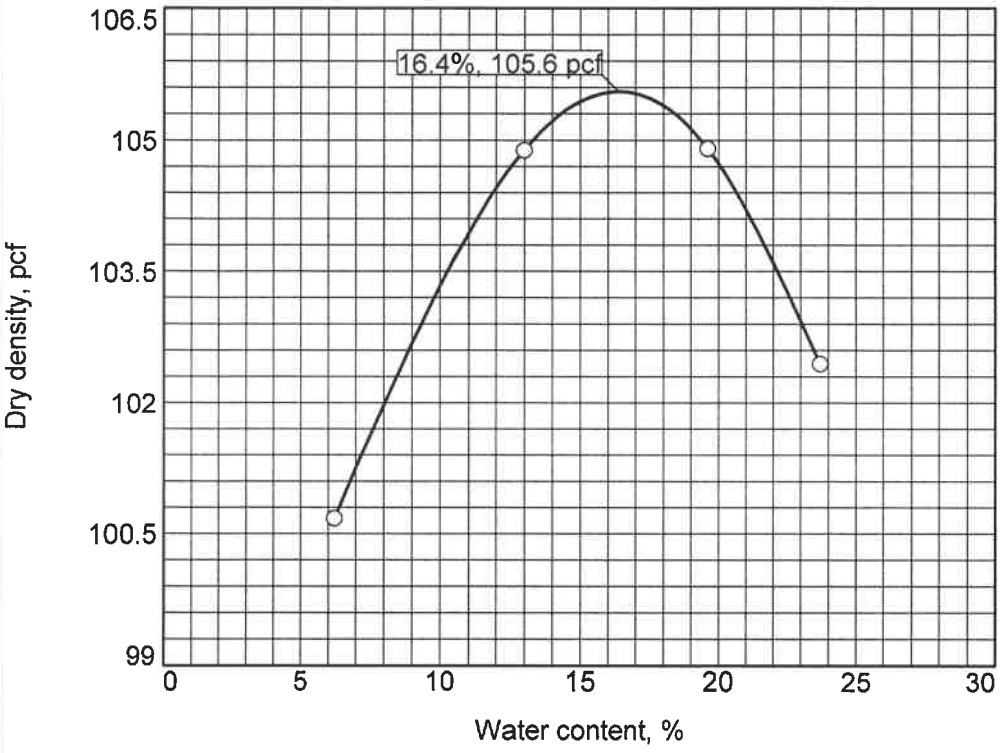
Test Data- Sample No. S-6 (TP-21, Bulk, 1'-3')

Standard Proctor Value: 105.6
Remolded Dry Density: 89.76 (85%)
Optimum Moisture Content: 16.4%
In-Situ Moisture Content: 6.81%

Moisture Contents (%)	Initial Soil Temperature (°C)	Thermal Resistivity (°C-cm/W)
0	25.2	784
4	25	352
8	24.7	215
12	24.5	172
16.4	24.3	158



COMPACTION TEST REPORT



Curve No.
S-6

Test Specification:
ASTM D 698-12 Method A Standard

Preparation Method _____
Hammer Wt. 5.5 lb.
Hammer Drop 12 in.
Number of Layers three
Blows per Layer 25
Mold Size 0.03333 cu. ft.

Test Performed on Material Passing #4 **Sieve**

NM _____ **LL** _____ **PI** _____
Sp.G. (ASTM D 854) _____
%>#4 _____ **%<No.200** _____
USCS _____ **AASHTO** _____
Date Sampled _____
Date Tested _____
Tested By _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	12.99	13.38	13.61	13.65		
WM	9.43	9.43	9.43	9.43		
WW + T #1	769.7	786.5	910.8	781.2		
WD + T #1	724.6	696.1	761.5	631.5		
TARE #1	0.0	0.0	0.0	0.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	6.2	13.0	19.6	23.7		
DRY DENSITY	100.7	104.9	104.9	102.4		

TEST RESULTS

Maximum dry density = 105.6 pcf

Optimum moisture = 16.4 %

Material Description

Remarks:

Project No. AOA-5632 **Client:** ANS GEO, Inc.
Project: Cypres Creek, High Top Solar, Moxee, WA

○ **Location:** TP-21, 1'-3' **Depth:** 1'-3' **Sample Number:** S-6

ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Checked by:
Title:

Figure 6 F 2

CONSULTANTS, INC.
4405 South Clinton Avenue
South Plainfield, NJ 07080

Tel: (800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8633

NJ EDA Approved Testing Laboratory • MBE/DBE Certified • NJ DEP Certified
www.ANSConsultants.net

CERTIFICATE OF TEST - CORROSION ANALYSIS

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite # A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

PROJECT: Cypress Creek- High Top Solar
Moxee, WA

REPORT: S-2 to S-4 & S-6 to S-8

TEST PERFORMED:
1) Standard Test Method for Water Soluble Sulfate in Soil AS PER ASTM C-1580
2) Standard Test Method for measuring pH of Soil for use in Corrosion Testing AS PER ASTM G51-18
3) Standard Test Method for Measurement of Oxidation-Reduction Potential (ORP) of Soil AS PER ASTM G-200
4) Standard Method for Test for Determining Water Soluble Chloride Ion AS PER AASHTO T-291
5) Standard Test Method for Measuring Soil Resistivity using two-Electrode AS PER ASTM G187-18

Sample No.	Sample ID	Sulfate (mg/Kg)	pH	ORP (mV)	Chloride (mg/Kg)	Resistivity (Ohm-cm)
S-2	TP-2, Bulk, 1'-2.5'	38	6.33	+204	30	11,000
S-3	TP-6, Bulk, 1'-3'	72	6.75	+213	170	5,000
S-4	TP-18, Bulk, 1'-3'	28	6.77	+196	40	8,000
S-6	TP-21, Bulk, 1'-3'	24	6.82	+208	80	8,500
S-7	B-3, Bulk, 1'-3'	3	6.71	+217	35	3,000
S-8	B-9, Bulk, 1'-3'	3	6.91	+202	40	9,000

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CERTIFICATE OF TEST - CORROSION ANALYSIS

CLIENT: ANS Geo, Inc.
4405 South Clinton Avenue, Suite # A
South Plainfield, NJ 07080

DATE: 12/17/2020

FILE NO: AOA-5632

PROJECT: Cypress Creek- High Top Solar
Moxee, WA

REPORT NO: S-10, S-11, S-13 to S-16

TEST PERFORMED: 1) Standard Test Method for Water Soluble Sulfate in Soil AS PER ASTM C-1580
2) Standard Test Method for measuring pH of Soil for use in Corrosion Testing AS PER ASTM G51-18
3) Standard Test Method for Measurement of Oxidation-Reduction Potential (ORP) of Soil AS PER ASTM G-200
4) Standard Method for Test for Determining Water Soluble Chloride Ion AS PER AASHTO T-291
5) Standard Test Method for Measuring Soil Resistivity using two-Electrode AS PER ASTM G187-18

Sample No.	Sample ID	Sulfate (mg/Kg)	pH	ORP (mV)	Chloride (mg/Kg)	Resistivity (Ohm-cm)
S-10	B-14, Bulk, 1'-3'	7	6.65	+194	25	7,600
S-11	B-15, Bulk, 1'-3'	17	7.00	+200	30	8,500
S-13	B-17, Bulk, 1'-3'	11	6.85	+205	30	8,900
S-14	B-19, Bulk, 1'-3'	17	6.96	+153	35	11,000
S-15	B-23, Bulk, 1'-3'	27	7.01	+186	45	9,000
S-16	B-25, Bulk, 1'-3'	9	7.12	+193	40	9,500

Attachment F

Environmental Sampling Results

B-REC-1A & B-REC-1B

ENVIRONMENTAL RESULTS

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017069
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/31/20

ANS Geo Inc
4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025911 Date Received: 12/ 7/20
Sample Identification: High Top Solar B-REC-1A Date Sampled: 12/ 7/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/S				12/31/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima
Signature:

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017069
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/31/20

ANS Geo Inc
4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025912 Date Received: 12/ 7/20
Sample Identification: High Top Solar B-REC-1B Date Sampled: 12/ 7/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/S				12/31/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima
Signature:

Eurofins-Cascade Analytical uses procedures established by EPA, AOAC, APHA, ASTM, and AWWA. Eurofins-Cascade Analytical makes no warranty of any kind. The client assumes all risk and liability from the use of these results. Results relate only to the items tested and the sample(s) as received by the laboratory. Eurofins-Cascade Analytical liability to the client as a result of use of the test results shall be limited to a sum equal to the fees paid by the client to Eurofins-Cascade Analytical for analysis. PLEASE REVIEW YOUR DATA IN A TIMELY MANNER. DATA GAPS OR ERRORS AFTER ONE MONTH WILL NOT BE OUR RESPONSIBILITY. THOUGH WE DO KEEP ALL ANALYTICAL DATA FOR SEVERAL YEARS, SAMPLES ARE DISPOSED OF AFTER SIX WEEKS.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-99649-1
Client Project/Site: ANS Geo

For:
Cascade Analytical Inc
1008 W. Ahtanum Rd.
Union Gap, Washington 98903

Attn: Andy Schut

Authorized for release by:
12/31/2020 10:00:35 AM

Pauline Matlock, Project Manager
(253)922-2310
pauline.matlock@eurofinset.com

Job ID: 580-99649-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-99649-1

Comments
No additional comments.

Receipt
The samples were received on 12/10/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0° C.

GC/MS VOA
Method 8260D: Naphthalene was detected in the method blank greater than the method detection limit but less than the reporting limit. The data have been qualified and reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-345537 recovered above the upper control limit for Bromomethane, Chloroethane, Dichlorodifluoromethane, 1,1-Dichloroethene, Chloromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-345537/3).

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-345397 and analytical batch 580-345537 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: Surrogate recovery for the following samples were outside control limits: 20-C025910 (580-99649-1), 20-C025911 (580-99649-2) and 20-C025912 (580-99649-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC/MS Semi VOA
Method 8270E: The method blank for preparation batch 580-345599 contained Naphthalene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 8270E: The method blank for preparation batch 580-345599 and analytical batch 580-345700 contained 2-Methylnaphthalene, Phenanthrene, Anthracene and 1-Methylnaphthalene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8270E: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-345700 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8270E: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 2,4-Dinitrophenol. This analyte may have a %D >50%. (CCVIS 580-3457001/3)

Method 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 580-345599 and analytical batch 580-346684 recovered outside control limits for the following analyte(s): 3,3'-Dichlorobenzidine. 3,3'-Dichlorobenzidine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8270E: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-345599 and analytical batch 580-346684 recovered outside control limits for the following analytes: Bis(chloroisopropyl)ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-346684

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated

Client Sample ID: 20-C025911
Date Collected: 12/09/20 13:40
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-2
Matrix: Solid
Percent Solids: 87.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	2.3	0.56	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Chloromethane	ND		5.7	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Vinyl chloride	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Bromomethane	ND		1.1	0.24	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Chloroethane	ND		11	0.85	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Trichlorofluoromethane	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1-Dichloroethene	ND		5.7	1.2	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Methylene Chloride	ND		45	11	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
trans-1,2-Dichloroethene	ND		2.3	0.45	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1-Dichloroethane	ND		1.1	0.22	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
2,2-Dichloropropane	ND		5.7	0.37	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
cis-1,2-Dichloroethene	ND		3.4	0.68	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Bromochloromethane	ND		2.3	0.28	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Chloroform	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1,1-Trichloroethane	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Carbon tetrachloride	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1-Dichloropropene	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Benzene	ND		2.3	0.44	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,2-Dichloroethane	ND		1.1	0.23	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Trichloroethene	ND		2.3	0.34	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,2-Dichloropropane	ND		2.3	0.45	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Dibromomethane	ND		1.1	0.19	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Bromodichloromethane	ND		1.1	0.20	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
cis-1,3-Dichloropropene	ND		1.1	0.23	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Toluene	ND		11	1.5	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
trans-1,3-Dichloropropene	ND		11	0.68	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1,2-Trichloroethane	ND		2.3	0.28	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Tetrachloroethene	ND		2.3	0.45	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,3-Dichloropropane	ND		2.3	0.26	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Dibromochloromethane	ND		1.7	0.31	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,2-Dibromoethane	ND		1.1	0.23	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Chlorobenzene	ND		2.3	0.28	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Ethylbenzene	ND		2.3	0.46	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1,1,2-Tetrachloroethane	ND		3.4	0.67	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,1,2,2-Tetrachloroethane	ND		4.5	1.0	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
m-Xylene & p-Xylene	ND		11	0.63	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
o-Xylene	ND		5.7	1.0	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Styrene	ND		3.4	0.84	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Bromoform	ND		5.7	0.95	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Isopropylbenzene	ND		2.3	0.52	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
Bromobenzene	ND		11	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
N-Propylbenzene	ND		5.7	0.86	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,2,3-Trichloropropane	ND		5.7	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
2-Chlorotoluene	ND		5.7	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,3,5-Trimethylbenzene	ND		5.7	0.92	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
4-Chlorotoluene	ND		5.7	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
t-Butylbenzene	ND		3.4	0.75	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
1,2,4-Trimethylbenzene	ND		5.7	1.4	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1
sec-Butylbenzene	ND		3.4	0.76	ug/Kg	☼	12/10/20 11:00	12/12/20 00:12	1

Client Sample ID: 20-C025911
Date Collected: 12/09/20 13:40
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-2
Matrix: Solid
Percent Solids: 87.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		140	28	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
2,6-Dinitrotoluene	ND		840	84	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
3-Nitroaniline	ND	F1 *-	1700	560	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Acenaphthene	ND		220	26	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
2,4-Dinitrophenol	ND		11000	3300	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
4-Nitrophenol	ND		11000	970	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Dibenzofuran	ND		840	33	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
2,4-Dinitrotoluene	ND	F1	1100	240	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Diethyl phthalate	ND		2200	120	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
4-Chlorophenyl phenyl ether	ND	F1	1100	35	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Fluorene	ND		140	28	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
4-Nitroaniline	ND	F2	840	280	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
4,6-Dinitro-2-methylphenol	ND		5600	560	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
N-Nitrosodiphenylamine	ND	F1	340	45	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
4-Bromophenyl phenyl ether	ND		1100	51	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Hexachlorobenzene	ND		280	84	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Pentachlorophenol	ND	F2	2200	350	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Phenanthrene	ND		340	33	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Anthracene	ND		340	90	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Di-n-butyl phthalate	ND		2800	150	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Fluoranthene	ND		220	67	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Pyrene	**1500**		340	73	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Butyl benzyl phthalate	ND		1100	290	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
3,3'-Dichlorobenzidine	ND	F1	2200	470	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Benzo[a]anthracene	ND		220	62	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Chrysene	ND		340	73	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Bis(2-ethylhexyl) phthalate	**18000**		3400	400	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Di-n-octyl phthalate	ND	F1	840	67	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Benzo[a]pyrene	ND		340	73	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Indeno[1,2,3-cd]pyrene	ND		220	67	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Dibenz(a,h)anthracene	ND	F1	280	67	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Benzo[g,h,i]perylene	ND	F1	340	100	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Carbazole	ND		840	41	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
1-Methylnaphthalene	ND		170	28	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Benzo[b]fluoranthene	ND		220	56	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
Benzo[k]fluoranthene	ND		340	79	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5
bis(chloroisopropyl) ether	ND		1100	34	ug/Kg	☼	12/22/20 18:55	12/23/20 16:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*85*		*47 - 119*	*12/22/20 18:55*	*12/23/20 16:52*	*5*
Phenol-d5 (Surr)	*80*		*59 - 120*	*12/22/20 18:55*	*12/23/20 16:52*	*5*
Nitrobenzene-d5 (Surr)	*107*		*54 - 120*	*12/22/20 18:55*	*12/23/20 16:52*	*5*
2-Fluorobiphenyl	*101*		*57 - 120*	*12/22/20 18:55*	*12/23/20 16:52*	*5*
2,4,6-Tribromophenol (Surr)	*72*		*52 - 115*	*12/22/20 18:55*	*12/23/20 16:52*	*5*
Terphenyl-d14 (Surr)	*92*		*73 - 125*	*12/22/20 18:55*	*12/23/20 16:52*	*5*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**100**		22	10	mg/Kg	☼	12/16/20 15:23	12/16/20 18:36	1

Client Sample ID: 20-C025912
Date Collected: 12/09/20 14:00
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-3
Matrix: Solid
Percent Solids: 94.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	2.2	0.53	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Chloromethane	ND		5.5	1.0	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Vinyl chloride	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Bromomethane	ND		1.1	0.23	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Chloroethane	ND		11	0.82	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Trichlorofluoromethane	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1-Dichloroethene	ND		5.5	1.2	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Methylene Chloride	ND		44	11	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
trans-1,2-Dichloroethene	ND		2.2	0.44	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1-Dichloroethane	ND		1.1	0.21	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
2,2-Dichloropropane	ND		5.5	0.36	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
cis-1,2-Dichloroethene	ND		3.3	0.65	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Bromochloromethane	ND		2.2	0.27	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Chloroform	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1,1-Trichloroethane	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Carbon tetrachloride	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1-Dichloropropene	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Benzene	ND		2.2	0.43	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,2-Dichloroethane	ND		1.1	0.22	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Trichloroethene	ND		2.2	0.33	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,2-Dichloropropane	ND		2.2	0.44	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Dibromomethane	ND		1.1	0.19	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Bromodichloromethane	ND		1.1	0.20	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
cis-1,3-Dichloropropene	ND		1.1	0.22	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Toluene	ND		11	1.4	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
trans-1,3-Dichloropropene	ND		11	0.65	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1,2-Trichloroethane	ND		2.2	0.27	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Tetrachloroethene	ND		2.2	0.44	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,3-Dichloropropane	ND		2.2	0.25	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Dibromochloromethane	ND		1.6	0.29	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,2-Dibromoethane	ND		1.1	0.22	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Chlorobenzene	ND		2.2	0.27	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Ethylbenzene	ND		2.2	0.45	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1,1,2-Tetrachloroethane	ND		3.3	0.64	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,1,2,2-Tetrachloroethane	ND		4.4	0.98	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
m-Xylene & p-Xylene	ND		11	0.61	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
o-Xylene	ND		5.5	1.0	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Styrene	ND		3.3	0.81	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Bromoform	ND		5.5	0.92	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Isopropylbenzene	ND		2.2	0.50	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
Bromobenzene	ND		11	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
N-Propylbenzene	ND		5.5	0.83	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,2,3-Trichloropropane	ND		5.5	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
2-Chlorotoluene	ND		5.5	1.0	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,3,5-Trimethylbenzene	ND		5.5	0.88	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
4-Chlorotoluene	ND		5.5	1.1	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
t-Butylbenzene	ND		3.3	0.72	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
1,2,4-Trimethylbenzene	ND		5.5	1.3	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1
sec-Butylbenzene	ND		3.3	0.73	ug/Kg	☼	12/10/20 11:00	12/12/20 00:38	1

Client Sample ID: 20-C025912
Date Collected: 12/09/20 14:00
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-3
Matrix: Solid
Percent Solids: 94.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		26	5.3	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
2,6-Dinitrotoluene	ND		160	16	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
3-Nitroaniline	ND		320	110	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Acenaphthene	ND		42	4.9	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
2,4-Dinitrophenol	ND		2100	620	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
4-Nitrophenol	ND		2100	180	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Dibenzofuran	ND		160	6.3	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
2,4-Dinitrotoluene	ND		210	46	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Diethyl phthalate	ND		420	23	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
4-Chlorophenyl phenyl ether	ND		210	6.7	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Fluorene	ND		26	5.3	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
4-Nitroaniline	ND		160	53	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
4,6-Dinitro-2-methylphenol	ND		1100	110	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
N-Nitrosodiphenylamine	ND		64	8.5	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
4-Bromophenyl phenyl ether	ND		210	9.6	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Hexachlorobenzene	ND		53	16	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Pentachlorophenol	ND		420	67	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Phenanthrene	ND		64	6.1	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Anthracene	ND		64	17	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Di-n-butyl phthalate	ND		530	29	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Fluoranthene	ND		42	13	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Pyrene	ND		64	14	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Butyl benzyl phthalate	ND		210	54	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
3,3'-Dichlorobenzidine	ND	*-	420	89	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Benzo[a]anthracene	ND		42	12	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Chrysene	ND		64	14	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Bis(2-ethylhexyl) phthalate	ND		640	75	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Di-n-octyl phthalate	ND		160	13	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Benzo[a]pyrene	ND		64	14	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Indeno[1,2,3-cd]pyrene	ND		42	13	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Dibenz(a,h)anthracene	ND		53	13	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Benzo[g,h,i]perylene	ND		64	19	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Carbazole	ND		160	7.7	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
1-Methylnaphthalene	ND		32	5.3	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Benzo[b]fluoranthene	ND		42	11	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
Benzo[k]fluoranthene	ND		64	15	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1
bis(chloroisopropyl) ether	ND	*+	210	6.5	ug/Kg	☼	12/15/20 11:55	12/16/20 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*90*		*47 - 119*	*12/15/20 11:55*	*12/16/20 16:17*	*1*
Phenol-d5 (Surr)	*88*		*59 - 120*	*12/15/20 11:55*	*12/16/20 16:17*	*1*
Nitrobenzene-d5 (Surr)	*97*		*54 - 120*	*12/15/20 11:55*	*12/16/20 16:17*	*1*
2-Fluorobiphenyl	*98*		*57 - 120*	*12/15/20 11:55*	*12/16/20 16:17*	*1*
2,4,6-Tribromophenol (Surr)	*78*		*52 - 115*	*12/15/20 11:55*	*12/16/20 16:17*	*1*
Terphenyl-d14 (Surr)	*94*		*73 - 125*	*12/15/20 11:55*	*12/16/20 16:17*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**9.0**	**J**	15	7.0	mg/Kg	☼	12/16/20 15:23	12/16/20 19:00	1

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

Lab Sample ID: MB 580-345397/1-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0	0.49	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloromethane	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Vinyl chloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromomethane	ND		1.0	0.21	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroethane	ND		10	0.75	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichlorofluoromethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethene	ND		5.0	1.1	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Methylene Chloride	ND		40	9.9	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,2-Dichloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethane	ND		1.0	0.19	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2,2-Dichloropropane	ND		5.0	0.33	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,2-Dichloroethene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromochloromethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroform	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1-Trichloroethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Carbon tetrachloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloropropene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Benzene	ND		2.0	0.39	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichloroethene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloropropane	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromomethane	ND		1.0	0.17	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromodichloromethane	ND		1.0	0.18	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Toluene	ND		10	1.3	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,3-Dichloropropene	ND		10	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Tetrachloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3-Dichloropropane	ND		2.0	0.23	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromochloromethane	ND		1.5	0.27	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chlorobenzene	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1,2-Tetrachloroethane	ND		3.0	0.59	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.90	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
m-Xylene & p-Xylene	ND		10	0.56	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
o-Xylene	ND		5.0	0.92	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Styrene	ND		3.0	0.74	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromoform	ND		5.0	0.84	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Isopropylbenzene	ND		2.0	0.46	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromobenzene	ND		10	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
N-Propylbenzene	ND		5.0	0.76	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,3-Trichloropropane	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2-Chlorotoluene	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3,5-Trimethylbenzene	ND		5.0	0.81	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
t-Butylbenzene	ND		3.0	0.66	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,4-Trimethylbenzene	ND		5.0	1.2	ug/Kg		12/11/20 16:40	12/11/20 20:46	1

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

Lab Sample ID: LCS 580-345397/2-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	20.0	18.2		ug/Kg		91	75 - 137
trans-1,3-Dichloropropene	20.0	18.3		ug/Kg		91	80 - 121
1,1,2-Trichloroethane	20.0	20.1		ug/Kg		101	80 - 123
Tetrachloroethene	20.0	17.3		ug/Kg		87	58 - 150
1,3-Dichloropropane	20.0	19.3		ug/Kg		96	75 - 120
Dibromochloromethane	20.0	18.8		ug/Kg		94	75 - 132
1,2-Dibromoethane	20.0	20.6		ug/Kg		103	77 - 123
Chlorobenzene	20.0	18.3		ug/Kg		91	80 - 131
Ethylbenzene	20.0	19.6		ug/Kg		98	80 - 135
1,1,1,2-Tetrachloroethane	20.0	18.4		ug/Kg		92	79 - 128
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/Kg		97	77 - 127
m-Xylene & p-Xylene	20.0	17.1		ug/Kg		86	80 - 132
o-Xylene	20.0	19.1		ug/Kg		95	80 - 132
Styrene	20.0	18.4		ug/Kg		92	79 - 129
Bromoform	20.0	19.0		ug/Kg		95	71 - 146
Isopropylbenzene	20.0	18.9		ug/Kg		94	81 - 140
Bromobenzene	20.0	19.2		ug/Kg		96	78 - 126
N-Propylbenzene	20.0	17.8		ug/Kg		89	68 - 149
1,2,3-Trichloropropane	20.0	19.7		ug/Kg		98	77 - 127
2-Chlorotoluene	20.0	16.6		ug/Kg		83	77 - 134
1,3,5-Trimethylbenzene	20.0	17.8		ug/Kg		89	72 - 142
4-Chlorotoluene	20.0	16.8		ug/Kg		84	71 - 137
t-Butylbenzene	20.0	17.4		ug/Kg		87	72 - 144
1,2,4-Trimethylbenzene	20.0	17.8		ug/Kg		89	73 - 138
sec-Butylbenzene	20.0	18.0		ug/Kg		90	71 - 143
1,3-Dichlorobenzene	20.0	18.3		ug/Kg		91	78 - 132
4-Isopropyltoluene	20.0	17.8		ug/Kg		89	71 - 142
1,4-Dichlorobenzene	20.0	18.4		ug/Kg		92	77 - 123
n-Butylbenzene	20.0	16.8		ug/Kg		84	69 - 143
1,2-Dichlorobenzene	20.0	18.5		ug/Kg		93	78 - 126
1,2-Dibromo-3-Chloropropane	20.0	20.1		ug/Kg		100	75 - 129
1,2,4-Trichlorobenzene	20.0	20.0		ug/Kg		100	74 - 131
1,2,3-Trichlorobenzene	20.0	19.5		ug/Kg		97	68 - 136
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150
Naphthalene	20.0	21.5		ug/Kg		107	64 - 136
Methyl tert-butyl ether	20.0	24.0		ug/Kg		120	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*

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

Lab Sample ID: LCSD 580-345397/3-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	20.0	18.5		ug/Kg		93	71 - 143	3	40
1,3-Dichlorobenzene	20.0	19.2		ug/Kg		96	78 - 132	5	40
4-Isopropyltoluene	20.0	18.6		ug/Kg		93	71 - 142	5	40
1,4-Dichlorobenzene	20.0	19.3		ug/Kg		96	77 - 123	4	40
n-Butylbenzene	20.0	17.7		ug/Kg		88	69 - 143	6	40
1,2-Dichlorobenzene	20.0	19.4		ug/Kg		97	78 - 126	4	40
1,2-Dibromo-3-Chloropropane	20.0	19.0		ug/Kg		95	75 - 129	5	40
1,2,4-Trichlorobenzene	20.0	20.4		ug/Kg		102	74 - 131	2	40
1,2,3-Trichlorobenzene	20.0	19.3		ug/Kg		97	68 - 136	1	40
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150	0	36
Naphthalene	20.0	20.8		ug/Kg		104	64 - 136	3	40
Methyl tert-butyl ether	20.0	25.0		ug/Kg		125	77 - 132	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 121*

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

Lab Sample ID: MB 580-345599/1-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		150	23	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Bis(2-chloroethyl)ether	ND		100	7.7	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Chlorophenol	ND		200	4.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,3-Dichlorobenzene	ND		50	4.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,4-Dichlorobenzene	ND		50	8.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzyl alcohol	ND		1000	50	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,2-Dichlorobenzene	ND		50	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Methylphenol	ND		150	9.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
3 & 4 Methylphenol	ND		200	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
N-Nitrosodi-n-propylamine	ND		200	22	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachloroethane	ND		150	4.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Nitrobenzene	ND		200	20	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Isophorone	ND		150	8.4	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Nitrophenol	ND		200	6.2	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dimethylphenol	ND		200	60	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzoic acid	ND		4000	1200	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dichlorophenol	ND		200	60	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,2,4-Trichlorobenzene	ND		50	6.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Naphthalene	34.8		25	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Chloroaniline	ND		1500	130	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachlorobutadiene	ND		50	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Chloro-3-methylphenol	ND		150	33	ug/Kg		12/15/20 11:55	12/16/20 14:46	1

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

Lab Sample ID: MB 580-345599/1-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345599

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	97		54 - 120	12/15/20 11:55	12/16/20 14:46	1
2-Fluorobiphenyl	106		57 - 120	12/15/20 11:55	12/16/20 14:46	1
2,4,6-Tribromophenol (Surr)	53		52 - 115	12/15/20 11:55	12/16/20 14:46	1
Terphenyl-d14 (Surr)	115		73 - 125	12/15/20 11:55	12/16/20 14:46	1

Lab Sample ID: LCS 580-345599/2-A
Matrix: Solid
Analysis Batch: 346684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1000	935		ug/Kg		94	59 - 120
Bis(2-chloroethyl)ether	1000	1180		ug/Kg		118	61 - 120
2-Chlorophenol	1000	985		ug/Kg		99	66 - 120
1,3-Dichlorobenzene	1000	1010		ug/Kg		101	57 - 120
1,4-Dichlorobenzene	1000	1010		ug/Kg		101	57 - 120
Benzyl alcohol	1000	417	J	ug/Kg		42	10 - 134
1,2-Dichlorobenzene	1000	1000		ug/Kg		100	62 - 120
2-Methylphenol	1000	800		ug/Kg		80	53 - 120
3 & 4 Methylphenol	1000	838		ug/Kg		84	54 - 120
N-Nitrosodi-n-propylamine	1000	1180		ug/Kg		118	56 - 138
Hexachloroethane	1000	1110		ug/Kg		111	57 - 132
Nitrobenzene	1000	1260		ug/Kg		126	57 - 128
Isophorone	1000	1200		ug/Kg		120	61 - 128
2-Nitrophenol	1000	996		ug/Kg		100	49 - 123
2,4-Dimethylphenol	1000	450		ug/Kg		45	31 - 129
Benzoic acid	2000	ND		ug/Kg		18	10 - 120
Bis(2-chloroethoxy)methane	1000	1180		ug/Kg		118	60 - 120
2,4-Dichlorophenol	1000	922		ug/Kg		92	63 - 120
1,2,4-Trichlorobenzene	1000	1060		ug/Kg		106	66 - 120
Naphthalene	1000	1030		ug/Kg		103	68 - 120
4-Chloroaniline	1000	136	J	ug/Kg		14	10 - 120
Hexachlorobutadiene	1000	1090		ug/Kg		109	64 - 130
4-Chloro-3-methylphenol	1000	727		ug/Kg		73	55 - 120
2-Methylnaphthalene	1000	1050		ug/Kg		105	70 - 120
Hexachlorocyclopentadiene	1000	889		ug/Kg		89	53 - 131
2,4,6-Trichlorophenol	1000	911		ug/Kg		91	37 - 120
2,4,5-Trichlorophenol	1000	645		ug/Kg		64	41 - 120
2-Chloronaphthalene	1000	1010		ug/Kg		101	65 - 120
2-Nitroaniline	1000	999		ug/Kg		100	54 - 126
Dimethyl phthalate	1000	1050		ug/Kg		105	71 - 120
Acenaphthylene	1000	1010		ug/Kg		101	63 - 120
2,6-Dinitrotoluene	1000	1080		ug/Kg		108	70 - 126
3-Nitroaniline	1000	425		ug/Kg		43	34 - 120
Acenaphthene	1000	1080		ug/Kg		108	64 - 120
2,4-Dinitrophenol	2000	1280	J	ug/Kg		64	10 - 139
4-Nitrophenol	2000	716	J	ug/Kg		36	10 - 140
Dibenzofuran	1000	1080		ug/Kg		108	68 - 120
2,4-Dinitrotoluene	1000	1050		ug/Kg		105	63 - 120

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

Lab Sample ID: 580-99593-A-4-C MS
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzyl alcohol	ND		1050	1080		ug/Kg	☼	104	10 - 134
1,2-Dichlorobenzene	ND		1050	964		ug/Kg	☼	92	62 - 120
2-Methylphenol	ND		1050	882		ug/Kg	☼	84	53 - 120
3 & 4 Methylphenol	ND		1050	863		ug/Kg	☼	83	54 - 120
N-Nitrosodi-n-propylamine	ND		1050	1190		ug/Kg	☼	114	56 - 138
Hexachloroethane	ND		1050	938		ug/Kg	☼	90	57 - 132
Nitrobenzene	ND		1050	1130		ug/Kg	☼	108	57 - 128
Isophorone	ND		1050	1110		ug/Kg	☼	106	61 - 128
2-Nitrophenol	ND		1050	1020		ug/Kg	☼	98	49 - 123
2,4-Dimethylphenol	ND	F2 F1	1050	889		ug/Kg	☼	85	31 - 129
Benzoic acid	ND	F1	2090	ND	F1	ug/Kg	☼	0	10 - 120
Bis(2-chloroethoxy)methane	ND		1050	1060		ug/Kg	☼	101	60 - 120
2,4-Dichlorophenol	ND	F2	1050	1040		ug/Kg	☼	99	63 - 120
1,2,4-Trichlorobenzene	ND		1050	1040		ug/Kg	☼	99	66 - 120
Naphthalene	ND		1050	985		ug/Kg	☼	94	68 - 120
4-Chloroaniline	ND	F1 *-	1050	ND	F1	ug/Kg	☼	0	10 - 120
Hexachlorobutadiene	ND		1050	994		ug/Kg	☼	95	64 - 130
4-Chloro-3-methylphenol	ND	F2	1050	1230		ug/Kg	☼	118	55 - 120
2-Methylnaphthalene	ND		1050	1050		ug/Kg	☼	100	70 - 120
Hexachlorocyclopentadiene	ND	F1	1050	437	F1	ug/Kg	☼	42	53 - 131
2,4,6-Trichlorophenol	ND	F2	1050	1080		ug/Kg	☼	104	37 - 120
2,4,5-Trichlorophenol	ND	F2	1050	870		ug/Kg	☼	83	41 - 120
2-Chloronaphthalene	ND		1050	1120		ug/Kg	☼	107	65 - 120
2-Nitroaniline	ND	F2	1050	1110		ug/Kg	☼	106	54 - 126
Dimethyl phthalate	ND	F2	1050	1060		ug/Kg	☼	101	71 - 120
Acenaphthylene	ND	F2	1050	1090		ug/Kg	☼	104	63 - 120
2,6-Dinitrotoluene	ND	F2	1050	1100		ug/Kg	☼	105	70 - 126
3-Nitroaniline	ND	F2	1050	600		ug/Kg	☼	57	34 - 120
Acenaphthene	ND	F2	1050	1110		ug/Kg	☼	106	64 - 120
2,4-Dinitrophenol	ND	F1 *-	2090	ND	F1	ug/Kg	☼	0	10 - 139
4-Nitrophenol	ND		2090	1870	J	ug/Kg	☼	90	10 - 140
Dibenzofuran	ND	F2	1050	1110		ug/Kg	☼	106	68 - 120
2,4-Dinitrotoluene	ND		1050	1040		ug/Kg	☼	100	63 - 120
Diethyl phthalate	ND		1050	1080		ug/Kg	☼	103	66 - 135
4-Chlorophenyl phenyl ether	ND	F2	1050	1120		ug/Kg	☼	107	70 - 120
Fluorene	ND	F2	1050	1070		ug/Kg	☼	103	68 - 121
4-Nitroaniline	ND	F2	1050	978		ug/Kg	☼	94	36 - 141
4,6-Dinitro-2-methylphenol	ND	F2	2090	292	J	ug/Kg	☼	14	13 - 141
N-Nitrosodiphenylamine	ND	F2 F1	1050	1070		ug/Kg	☼	102	67 - 128
4-Bromophenyl phenyl ether	ND		1050	1130		ug/Kg	☼	108	65 - 127
Hexachlorobenzene	ND		1050	1060		ug/Kg	☼	101	65 - 126
Pentachlorophenol	ND		2090	1410		ug/Kg	☼	67	10 - 120
Phenanthrene	ND		1050	1060		ug/Kg	☼	101	68 - 126
Anthracene	ND		1050	1070		ug/Kg	☼	102	67 - 131
Di-n-butyl phthalate	ND		1050	1160		ug/Kg	☼	111	66 - 150
Fluoranthene	ND	F2	1050	1140		ug/Kg	☼	109	69 - 133
Pyrene	ND		1050	1130		ug/Kg	☼	108	68 - 141
Butyl benzyl phthalate	ND		1050	1010		ug/Kg	☼	97	58 - 150
3,3'-Dichlorobenzidine	ND	F1	2090	1510		ug/Kg	☼	72	49 - 148

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

Lab Sample ID: 580-99593-A-4-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 345700 — **Prep Batch: 345599**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachlorobutadiene	ND		1050	850		ug/Kg	☼	81	64 - 130	16	19
4-Chloro-3-methylphenol	ND	F2	1050	898	F2	ug/Kg	☼	86	55 - 120	31	25
2-Methylnaphthalene	ND		1050	899		ug/Kg	☼	86	70 - 120	15	21
Hexachlorocyclopentadiene	ND	F1	1050	466	F1	ug/Kg	☼	45	53 - 131	6	21
2,4,6-Trichlorophenol	ND	F2	1050	849	F2	ug/Kg	☼	81	37 - 120	24	20
2,4,5-Trichlorophenol	ND	F2	1050	617	F2	ug/Kg	☼	59	41 - 120	34	23
2-Chloronaphthalene	ND		1050	911		ug/Kg	☼	87	65 - 120	20	21
2-Nitroaniline	ND	F2	1050	848	F2	ug/Kg	☼	81	54 - 126	27	16
Dimethyl phthalate	ND	F2	1050	839	F2	ug/Kg	☼	80	71 - 120	23	21
Acenaphthylene	ND	F2	1050	844	F2	ug/Kg	☼	81	63 - 120	26	18
2,6-Dinitrotoluene	ND	F2	1050	891	F2	ug/Kg	☼	85	70 - 126	21	18
3-Nitroaniline	ND	F2	1050	382	F2	ug/Kg	☼	37	34 - 120	44	25
Acenaphthene	ND	F2	1050	905	F2	ug/Kg	☼	87	64 - 120	20	19
2,4-Dinitrophenol	ND	F1 *-	2090	ND	F1	ug/Kg	☼	0	10 - 139	NC	40
4-Nitrophenol	ND		2090	1530	J	ug/Kg	☼	73	10 - 140	20	31
Dibenzofuran	ND	F2	1050	905	F2	ug/Kg	☼	87	68 - 120	20	18
2,4-Dinitrotoluene	ND		1050	826		ug/Kg	☼	79	63 - 120	23	23
Diethyl phthalate	ND		1050	865		ug/Kg	☼	83	66 - 135	22	22
4-Chlorophenyl phenyl ether	ND	F2	1050	871	F2	ug/Kg	☼	83	70 - 120	25	21
Fluorene	ND	F2	1050	854	F2	ug/Kg	☼	82	68 - 121	23	17
4-Nitroaniline	ND	F2	1050	616	F2	ug/Kg	☼	59	36 - 141	45	23
4,6-Dinitro-2-methylphenol	ND	F2	2090	477	J F2	ug/Kg	☼	23	13 - 141	48	40
N-Nitrosodiphenylamine	ND	F2 F1	1050	218	F2 F1	ug/Kg	☼	21	67 - 128	132	30
4-Bromophenyl phenyl ether	ND		1050	888		ug/Kg	☼	85	65 - 127	24	32
Hexachlorobenzene	ND		1050	853		ug/Kg	☼	82	65 - 126	21	32
Pentachlorophenol	ND		2090	1080		ug/Kg	☼	52	10 - 120	26	40
Phenanthrene	ND		1050	866		ug/Kg	☼	83	68 - 126	20	27
Anthracene	ND		1050	863		ug/Kg	☼	83	67 - 131	21	28
Di-n-butyl phthalate	ND		1050	935		ug/Kg	☼	89	66 - 150	21	26
Fluoranthene	ND	F2	1050	896	F2	ug/Kg	☼	86	69 - 133	24	21
Pyrene	ND		1050	913		ug/Kg	☼	87	68 - 141	21	24
Butyl benzyl phthalate	ND		1050	996		ug/Kg	☼	95	58 - 150	1	27
3,3'-Dichlorobenzidine	ND	F1	2090	ND	F1	ug/Kg	☼	0	49 - 148	NC	40
Benzo[a]anthracene	ND		1050	953		ug/Kg	☼	91	60 - 135	4	21
Chrysene	ND		1050	969		ug/Kg	☼	93	69 - 127	1	27
Bis(2-ethylhexyl) phthalate	ND		1050	1000		ug/Kg	☼	96	45 - 150	3	25
Di-n-octyl phthalate	ND		1050	1340		ug/Kg	☼	128	53 - 150	3	18
Benzo[a]pyrene	ND		1050	939		ug/Kg	☼	90	62 - 129	14	27
Indeno[1,2,3-cd]pyrene	ND		1050	588		ug/Kg	☼	56	52 - 146	13	30
Dibenz(a,h)anthracene	ND		1050	662		ug/Kg	☼	63	59 - 139	6	29
Benzo[g,h,i]perylene	ND	F1 *-	1050	493	F1	ug/Kg	☼	47	64 - 146	13	26
Carbazole	ND		1050	1010		ug/Kg	☼	97	43 - 150	22	24
1-Methylnaphthalene	ND		1050	938		ug/Kg	☼	90	69 - 120	13	24
Benzo[b]fluoranthene	ND		1050	1160		ug/Kg	☼	111	58 - 136	9	25
Benzo[k]fluoranthene	ND		1050	1190		ug/Kg	☼	113	68 - 123	3	18
bis(chloroisopropyl) ether	ND	F1 *+	1050	1450	F1	ug/Kg	☼	138	55 - 120	10	33

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

Lab Sample ID: MB 580-346259/1-A
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346259

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		150	5.9	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
2,4-Dinitrotoluene	ND		200	43	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Diethyl phthalate	ND		400	22	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
4-Chlorophenyl phenyl ether	ND		200	6.3	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Fluorene	ND		25	5.0	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
4-Nitroaniline	ND		150	50	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
N-Nitrosodiphenylamine	ND		60	8.0	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
4-Bromophenyl phenyl ether	ND		200	9.1	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Hexachlorobenzene	ND		50	15	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Pentachlorophenol	ND		400	63	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Phenanthrene	ND		60	5.8	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Anthracene	ND		60	16	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Di-n-butyl phthalate	ND		500	27	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Fluoranthene	ND		40	12	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Pyrene	ND		60	13	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Butyl benzyl phthalate	ND		200	51	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
3,3'-Dichlorobenzidine	ND		400	84	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Benzo[a]anthracene	ND		40	11	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Chrysene	ND		60	13	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Bis(2-ethylhexyl) phthalate	ND		600	71	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Di-n-octyl phthalate	ND		150	12	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Benzo[a]pyrene	ND		60	13	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Indeno[1,2,3-cd]pyrene	ND		40	12	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Dibenz(a,h)anthracene	ND		50	12	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Benzo[g,h,i]perylene	ND		60	18	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Carbazole	ND		150	7.3	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
1-Methylnaphthalene	ND		30	5.0	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Benzo[b]fluoranthene	ND		40	10	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
Benzo[k]fluoranthene	ND		60	14	ug/Kg		12/22/20 18:55	12/23/20 16:07	1
bis(chloroisopropyl) ether	ND		200	6.1	ug/Kg		12/22/20 18:55	12/23/20 16:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*90*		*47 - 119*	*12/22/20 18:55*	*12/23/20 16:07*	*1*
Phenol-d5 (Surr)	*83*		*59 - 120*	*12/22/20 18:55*	*12/23/20 16:07*	*1*
Nitrobenzene-d5 (Surr)	*96*		*54 - 120*	*12/22/20 18:55*	*12/23/20 16:07*	*1*
2-Fluorobiphenyl	*123*	*S1+*	*57 - 120*	*12/22/20 18:55*	*12/23/20 16:07*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*52 - 115*	*12/22/20 18:55*	*12/23/20 16:07*	*1*
Terphenyl-d14 (Surr)	*123*		*73 - 125*	*12/22/20 18:55*	*12/23/20 16:07*	*1*

Lab Sample ID: LCS 580-346259/2-A
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1000	869		ug/Kg		87	59 - 120
Bis(2-chloroethyl)ether	1000	1080		ug/Kg		108	61 - 120
2-Chlorophenol	1000	986		ug/Kg		99	66 - 120

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

Lab Sample ID: LCS 580-346259/2-A
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Butyl benzyl phthalate	1000	939		ug/Kg		94	58 - 150
3,3'-Dichlorobenzidine	2000	1200		ug/Kg		60	49 - 148
Benzo[a]anthracene	1000	983		ug/Kg		98	60 - 135
Chrysene	1000	1060		ug/Kg		106	69 - 127
Bis(2-ethylhexyl) phthalate	1000	925		ug/Kg		92	45 - 150
Di-n-octyl phthalate	1000	1010		ug/Kg		101	53 - 150
Benzo[a]pyrene	1000	1070		ug/Kg		107	62 - 129
Indeno[1,2,3-cd]pyrene	1000	890		ug/Kg		89	52 - 146
Dibenz(a,h)anthracene	1000	1010		ug/Kg		101	59 - 139
Benzo[g,h,i]perylene	1000	998		ug/Kg		100	64 - 146
Carbazole	1000	1240		ug/Kg		124	43 - 150
1-Methylnaphthalene	1000	1020		ug/Kg		102	69 - 120
Benzo[b]fluoranthene	1000	1160		ug/Kg		116	58 - 136
Benzo[k]fluoranthene	1000	1040		ug/Kg		104	68 - 123
bis(chloroisopropyl) ether	1000	750		ug/Kg		75	55 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*99*		*47 - 119*
Phenol-d5 (Surr)	*95*		*59 - 120*
Nitrobenzene-d5 (Surr)	*99*		*54 - 120*
2-Fluorobiphenyl	*107*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*92*		*52 - 115*
Terphenyl-d14 (Surr)	*112*		*73 - 125*

Lab Sample ID: 580-99649-2 MS
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: 20-C025911
Prep Type: Total/NA
Prep Batch: 346259

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	ND		1140	954		ug/Kg	☼	84	59 - 120
Bis(2-chloroethyl)ether	ND		1140	1300		ug/Kg	☼	114	61 - 120
2-Chlorophenol	ND		1140	1040	J	ug/Kg	☼	91	66 - 120
1,3-Dichlorobenzene	ND		1140	1150		ug/Kg	☼	101	57 - 120
1,4-Dichlorobenzene	ND		1140	1120		ug/Kg	☼	98	57 - 120
Benzyl alcohol	ND	F1	1140	ND	F1	ug/Kg	☼	0	10 - 134
1,2-Dichlorobenzene	ND		1140	1120		ug/Kg	☼	98	62 - 120
2-Methylphenol	ND		1140	988		ug/Kg	☼	87	53 - 120
3 & 4 Methylphenol	ND		1140	865	J	ug/Kg	☼	76	54 - 120
N-Nitrosodi-n-propylamine	ND		1140	1190		ug/Kg	☼	105	56 - 138
Hexachloroethane	ND		1140	1140		ug/Kg	☼	100	57 - 132
Nitrobenzene	ND		1140	1230		ug/Kg	☼	108	57 - 128
Isophorone	ND		1140	1190		ug/Kg	☼	104	61 - 128
2-Nitrophenol	ND		1140	1220		ug/Kg	☼	107	49 - 123
2,4-Dimethylphenol	ND		1140	788	J	ug/Kg	☼	69	31 - 129
Benzoic acid	ND		2280	ND		ug/Kg	☼	NC	10 - 120
Bis(2-chloroethoxy)methane	ND		1140	1120		ug/Kg	☼	99	60 - 120
2,4-Dichlorophenol	ND	F2	1140	1090	J	ug/Kg	☼	96	63 - 120
1,2,4-Trichlorobenzene	ND		1140	1270		ug/Kg	☼	112	66 - 120

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

Lab Sample ID: 580-99649-2 MS
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: 20-C025911
Prep Type: Total/NA
Prep Batch: 346259

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*87*		*47 - 119*
Phenol-d5 (Surr)	*87*		*59 - 120*
Nitrobenzene-d5 (Surr)	*102*		*54 - 120*
2-Fluorobiphenyl	*98*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*72*		*52 - 115*
Terphenyl-d14 (Surr)	*101*		*73 - 125*

Lab Sample ID: 580-99649-2 MSD
Matrix: Solid
Analysis Batch: 346294

Client Sample ID: 20-C025911
Prep Type: Total/NA
Prep Batch: 346259

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	ND		1110	893		ug/Kg	☼	81	59 - 120	7	30
Bis(2-chloroethyl)ether	ND		1110	1160		ug/Kg	☼	105	61 - 120	11	30
2-Chlorophenol	ND		1110	1000	J	ug/Kg	☼	90	66 - 120	4	32
1,3-Dichlorobenzene	ND		1110	1030		ug/Kg	☼	93	57 - 120	11	29
1,4-Dichlorobenzene	ND		1110	992		ug/Kg	☼	90	57 - 120	12	35
Benzyl alcohol	ND	F1	1110	ND	F1	ug/Kg	☼	0	10 - 134	NC	40
1,2-Dichlorobenzene	ND		1110	1040		ug/Kg	☼	94	62 - 120	7	30
2-Methylphenol	ND		1110	881		ug/Kg	☼	80	53 - 120	11	40
3 & 4 Methylphenol	ND		1110	854	J	ug/Kg	☼	77	54 - 120	1	36
N-Nitrosodi-n-propylamine	ND		1110	987	J	ug/Kg	☼	89	56 - 138	19	35
Hexachloroethane	ND		1110	1030		ug/Kg	☼	93	57 - 132	10	34
Nitrobenzene	ND		1110	1110		ug/Kg	☼	100	57 - 128	10	33
Isophorone	ND		1110	1080		ug/Kg	☼	98	61 - 128	9	31
2-Nitrophenol	ND		1110	1070	J	ug/Kg	☼	97	49 - 123	13	30
2,4-Dimethylphenol	ND		1110	733	J	ug/Kg	☼	66	31 - 129	7	40
Benzoic acid	ND		2210	ND		ug/Kg	☼	NC	10 - 120	NC	40
Bis(2-chloroethoxy)methane	ND		1110	1010	J	ug/Kg	☼	92	60 - 120	10	33
2,4-Dichlorophenol	ND	F2	1110	793	J F2	ug/Kg	☼	72	63 - 120	32	19
1,2,4-Trichlorobenzene	ND		1110	1130		ug/Kg	☼	102	66 - 120	12	18
Naphthalene	ND		1110	1070		ug/Kg	☼	96	68 - 120	11	15
4-Chloroaniline	ND	F1 *-	1110	ND	F1	ug/Kg	☼	0	10 - 120	NC	40
Hexachlorobutadiene	ND		1110	1200		ug/Kg	☼	108	64 - 130	10	19
4-Chloro-3-methylphenol	ND	F1 F2	1110	1260	F2	ug/Kg	☼	114	55 - 120	35	25
2-Methylnaphthalene	ND		1110	1050		ug/Kg	☼	95	70 - 120	12	21
Hexachlorocyclopentadiene	ND	F1 F2	1110	368	J F1 F2	ug/Kg	☼	33	53 - 131	29	21
2,4,6-Trichlorophenol	ND		1110	993		ug/Kg	☼	90	37 - 120	1	20
2,4,5-Trichlorophenol	ND		1110	1070	J	ug/Kg	☼	97	41 - 120	1	23
2-Chloronaphthalene	ND		1110	984		ug/Kg	☼	89	65 - 120	15	21
2-Nitroaniline	ND		1110	1060		ug/Kg	☼	96	54 - 126	6	16
Dimethyl phthalate	ND		1110	916		ug/Kg	☼	83	71 - 120	16	21
Acenaphthylene	ND		1110	1120		ug/Kg	☼	101	63 - 120	9	18
2,6-Dinitrotoluene	ND		1110	1160		ug/Kg	☼	104	70 - 126	7	18
3-Nitroaniline	ND	F1 *-	1110	ND	F1	ug/Kg	☼	0	34 - 120	NC	25
Acenaphthene	ND		1110	1090		ug/Kg	☼	98	64 - 120	13	19
2,4-Dinitrophenol	ND		2210	ND		ug/Kg	☼	NC	10 - 139	NC	40
4-Nitrophenol	ND		2210	1060	J	ug/Kg	☼	48	10 - 140	2	31

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-345756/1-A
Matrix: Solid
Analysis Batch: 345856

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345756

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		50 - 150	12/16/20 15:22	12/16/20 16:10	1

Lab Sample ID: LCS 580-345756/2-A
Matrix: Solid
Analysis Batch: 345856

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345756

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	37.9		mg/Kg		95	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		50 - 150

Lab Sample ID: LCSD 580-345756/3-A
Matrix: Solid
Analysis Batch: 345856

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345756

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	37.6		mg/Kg		94	80 - 120	1	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-346049/1-A
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		12/21/20 08:35	12/21/20 19:54	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		12/21/20 08:35	12/21/20 19:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	101		50 - 150	12/21/20 08:35	12/21/20 19:54	1

Lab Sample ID: LCS 580-346049/2-A
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	458		mg/Kg		92	70 - 125
Motor Oil (>C24-C36)	500	445		mg/Kg		89	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	83		50 - 150

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-345820/21-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.10	mg/Kg		12/17/20 12:22	12/18/20 12:04	10
Chromium	ND		1.0	0.063	mg/Kg		12/17/20 12:22	12/18/20 12:04	10

Lab Sample ID: LCS 580-345820/22-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	51.9		mg/Kg		104	80 - 120
Cadmium	50.0	50.8		mg/Kg		102	80 - 120
Arsenic	50.0	51.4		mg/Kg		103	80 - 120
Chromium	50.0	52.4		mg/Kg		105	80 - 120

Lab Sample ID: LCSD 580-345820/23-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	52.4		mg/Kg		105	80 - 120	1	20
Cadmium	50.0	51.3		mg/Kg		103	80 - 120	1	20
Arsenic	50.0	52.1		mg/Kg		104	80 - 120	1	20
Chromium	50.0	52.9		mg/Kg		106	80 - 120	1	20

Lab Sample ID: 580-99593-A-1-H MS
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	9.0		39.4	56.2		mg/Kg	☼	120	80 - 120
Cadmium	0.11	J	39.4	47.4		mg/Kg	☼	120	80 - 120
Arsenic	6.2		39.4	49.2		mg/Kg	☼	109	80 - 120
Chromium	26		39.4	68.1		mg/Kg	☼	107	80 - 120

Lab Sample ID: 580-99593-A-1-I MSD
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	9.0		39.8	49.0		mg/Kg	☼	100	80 - 120	14	20
Cadmium	0.11	J	39.8	40.1		mg/Kg	☼	100	80 - 120	17	20
Arsenic	6.2		39.8	43.8		mg/Kg	☼	95	80 - 120	12	20
Chromium	26		39.8	62.2		mg/Kg	☼	91	80 - 120	9	20

Lab Sample ID: 580-99593-A-1-G DU
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	9.0		8.90		mg/Kg	☼	1	20
Cadmium	0.11	J	0.111	J	mg/Kg	☼	5	20

Method: 2540G - SM 2540G

Lab Sample ID: 580-99717-A-5 DU
Matrix: Solid
Analysis Batch: 345512

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.2		89.5		%		0.3	20
Percent Moisture	10.8		10.5		%		3	20

Lab Chronicle

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99649-1

Client Sample ID: 20-C025912
Date Collected: 12/09/20 14:00
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	345512	12/14/20 13:40	NRS	TAL SEA

Client Sample ID: 20-C025912
Date Collected: 12/09/20 14:00
Date Received: 12/10/20 10:00

Lab Sample ID: 580-99649-3
Matrix: Solid
Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			345397	12/10/20 11:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	345537	12/12/20 00:38	CJB	TAL SEA
Total/NA	Prep	3546			345599	12/15/20 11:55	S1S	TAL SEA
Total/NA	Analysis	8270E		1	345700	12/16/20 16:17	W1T	TAL SEA
Total/NA	Prep	5035			345756	12/16/20 15:23	JSM	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	345856	12/16/20 19:00	CJB	TAL SEA
Total/NA	Prep	3546			346049	12/21/20 08:35	CCH	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	346129	12/22/20 00:55	ADB	TAL SEA
Total/NA	Prep	3050B			345820	12/17/20 12:22	JCP	TAL SEA
Total/NA	Analysis	6020B		10	346045	12/18/20 16:49	FCW	TAL SEA
Total/NA	Prep	7471A			345887	12/18/20 09:09	JCP	TAL SEA
Total/NA	Analysis	7471A		1	345912	12/18/20 12:23	FCW	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Sample Summary

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99649-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-99649-1	20-C025910	Solid	12/09/20 15:00	12/10/20 10:00	
580-99649-2	20-C025911	Solid	12/09/20 13:40	12/10/20 10:00	
580-99649-3	20-C025912	Solid	12/09/20 14:00	12/10/20 10:00	

Login Sample Receipt Checklist

Client: Cascade Analytical Inc

Job Number: 580-99649-1

Login Number: 99649
List Number: 1
Creator: Vallelunga, Diana L

List Source: Eurofins TestAmerica, Seattle

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

B-REC-2A & B-REC-2B

ENVIRONMENTAL RESULTS

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 016810
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/18/20

ANS Geo Inc
4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025478 Date Received: 12/ 1/20
Sample Identification: High Top Solar B Rec 2A Date Sampled: 11/30/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAI				12/11/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima
Signature:

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 016810
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/18/20

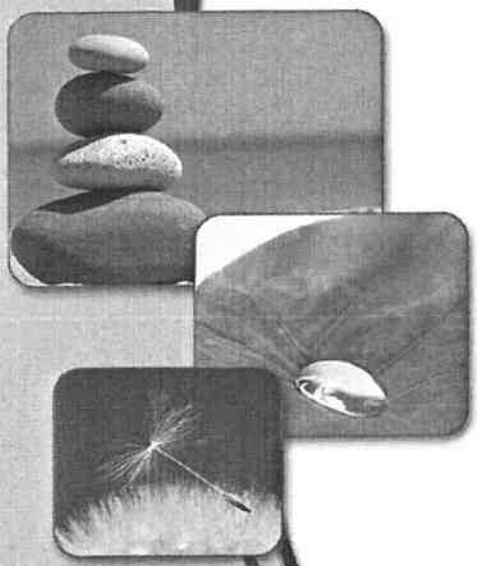
ANS Geo Inc
4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025479 Date Received: 12/ 1/20
Sample Identification: High Top Solar B Rec 2B Date Sampled: 11/30/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAI				12/11/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima
Signature:

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-99489-1
Client Project/Site: ANS Geo Inc

For:
Cascade Analytical Inc
1008 W. Ahtanum Rd.
Union Gap, Washington 98903

Attn: Andy Schut

Authorized for release by:
12/17/2020 4:57:03 PM

Pauline Matlock, Project Manager
(253)922-2310
pauline.matlock@eurofinset.com

Table of Contents

Case Narrative

Job ID: 580-99489-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-99489-1

Comments
No additional comments.

Receipt
The samples were received on 12/3/2020 3:47 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

Receipt Exceptions

The following samples were received outside of holding time for the stir bar vials to be frozen within 48 hous of sampling.: High Top Solar B-REC-2A (580-99489-1) and High Top Solar B-REC-2B (580-99489-2).

GC/MS VOA
Method 8260D: Surrogate recovery for the following samples were outside control limits: High Top Solar B-REC-2A (580-99489-1) and High Top Solar B-REC-2B (580-99489-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The following samples were received outside of holding time: High Top Solar B-REC-2A (580-99489-1) and High Top Solar B-REC-2B (580-99489-2).

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-345397 and analytical batch 580-345537 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-345537 recovered above the upper control limit for Bromomethane, Chloroethane, Dichlorodifluoromethane, 1,1-Dichloroethene, Chloromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-345537/3).

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

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) associated with batch 580-344983 recovered above the upper control limit for Nitrobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: High Top Solar B-REC-2A (580-99489-1) and (CCVIS 580-344983/3).

Method 8270E: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-344983 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8270E: The method blank for preparation batch 580-344832 contained Naphthalene above the reporting limit (RL) and Anthracene above the Method Detection Limit but below the Reporting Limit. None of the samples associated with this method blank contained the target compounds; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 8270E: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 3,3'-dichlorobenzidine, 4-Nitrophenol, Hexachlorocyclopentadiene. These analytes may have a %D >50%.

Method 8270E: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 2,4-Dinitrophenol, Hexachlorocyclopentadiene, Benzoic acid. These analytes may have a %D >60%.

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

Job ID: 580-99489-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010D: The initial calibration blank (ICB) for analytical batch 580-345469 contained Cr above half the reporting limit (RL). All reported samples associated with this ICB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the ICB; therefore, re-analysis of samples was not performed.

The method blank for prep batch 345245 contained Cadmium above the method detection limit. This target analyte concentration was less than half th reporting limit (RL) in both the method blank and the associated samples; therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

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

VOA Prep
Method 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: High Top Solar B-REC-2A (580-99489-1) and High Top Solar B-REC-2B (580-99489-2). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g . The amount provided was under this range.

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

Definitions/Glossary

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

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

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: High Top Solar B-REC-2A
Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-1
Matrix: Solid
Percent Solids: 89.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H H3 *+	2.2	0.53	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Chloromethane	ND	H H3	5.4	1.0	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Vinyl chloride	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Bromomethane	ND	H H3	1.1	0.23	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Chloroethane	ND	H H3	11	0.82	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Trichlorofluoromethane	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1-Dichloroethene	ND	H H3	5.4	1.2	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Methylene Chloride	ND	H H3	44	11	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
trans-1,2-Dichloroethene	ND	H H3	2.2	0.44	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1-Dichloroethane	ND	H H3	1.1	0.21	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
2,2-Dichloropropane	ND	H H3	5.4	0.36	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
cis-1,2-Dichloroethene	ND	H H3	3.3	0.65	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Bromochloromethane	ND	H H3	2.2	0.27	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Chloroform	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1,1-Trichloroethane	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Carbon tetrachloride	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1-Dichloropropene	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Benzene	ND	H H3	2.2	0.42	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2-Dichloroethane	ND	H H3	1.1	0.22	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Trichloroethene	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2-Dichloropropane	ND	H H3	2.2	0.44	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Dibromomethane	ND	H H3	1.1	0.19	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Bromodichloromethane	ND	H H3	1.1	0.20	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
cis-1,3-Dichloropropene	ND	H H3	1.1	0.22	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Toluene	**1.9**	**J H H3**	11	1.4	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
trans-1,3-Dichloropropene	ND	H H3	11	0.65	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1,2-Trichloroethane	ND	H H3	2.2	0.27	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Tetrachloroethene	ND	H H3	2.2	0.44	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,3-Dichloropropane	ND	H H3	2.2	0.25	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Dibromochloromethane	ND	H H3	1.6	0.29	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2-Dibromoethane	ND	H H3	1.1	0.22	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Chlorobenzene	ND	H H3	2.2	0.27	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Ethylbenzene	ND	H H3	2.2	0.45	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1,1,2-Tetrachloroethane	ND	H H3	3.3	0.64	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,1,2,2-Tetrachloroethane	ND	H H3	4.4	0.98	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
m-Xylene & p-Xylene	**0.77**	**J H H3**	11	0.61	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
o-Xylene	ND	H H3	5.4	1.0	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Styrene	ND	H H3	3.3	0.81	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Bromoform	ND	H H3	5.4	0.91	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Isopropylbenzene	ND	H H3	2.2	0.50	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Bromobenzene	ND	H H3	11	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
N-Propylbenzene	ND	H H3	5.4	0.83	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2,3-Trichloropropane	ND	H H3	5.4	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
2-Chlorotoluene	ND	H H3	5.4	1.0	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,3,5-Trimethylbenzene	ND	H H3	5.4	0.88	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
4-Chlorotoluene	ND	H H3	5.4	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
t-Butylbenzene	ND	H H3	3.3	0.72	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2,4-Trimethylbenzene	ND	H H3	5.4	1.3	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
sec-Butylbenzene	ND	H H3	3.3	0.73	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1

Client Sample ID: High Top Solar B-REC-2A

Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-1

Matrix: Solid
Percent Solids: 89.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND	H H3	5.4	1.2	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
4-Isopropyltoluene	ND	H H3	2.2	0.44	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,4-Dichlorobenzene	ND	H H3	5.4	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
n-Butylbenzene	ND	H H3	3.3	0.69	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2-Dichlorobenzene	ND	H H3	11	1.4	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2-Dibromo-3-Chloropropane	ND	H H3	11	1.7	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2,4-Trichlorobenzene	ND	H H3	2.2	0.46	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
1,2,3-Trichlorobenzene	ND	H H3	3.3	0.65	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Hexachlorobutadiene	ND	H H3	3.3	0.65	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Naphthalene	**8.7**	**J H H3 B**	11	2.0	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1
Methyl tert-butyl ether	ND	H H3	2.2	0.33	ug/Kg	☼	12/03/20 16:35	12/11/20 21:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*132*	*S1+*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:12*	*1*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:12*	*1*
Dibromofluoromethane (Surr)	*71*	*S1-*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*45*	*S1-*	*80 - 121*	*12/03/20 16:35*	*12/11/20 21:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		55	6.6	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
1,2-Dichlorobenzene	ND		55	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
1,3-Dichlorobenzene	ND		55	5.3	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
1,4-Dichlorobenzene	ND		55	9.1	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
1-Methylnaphthalene	ND		33	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4,5-Trichlorophenol	ND	F2	220	8.9	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4,6-Trichlorophenol	ND	F2	160	14	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4-Dichlorophenol	ND		220	66	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4-Dimethylphenol	ND		220	66	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4-Dinitrophenol	ND	F1	2200	640	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,4-Dinitrotoluene	ND	F2	220	47	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2,6-Dinitrotoluene	ND	F2	160	16	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Chloronaphthalene	ND		27	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Chlorophenol	ND		220	4.4	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Methylnaphthalene	ND		55	9.6	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Methylphenol	ND		160	11	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Nitroaniline	ND		110	16	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
2-Nitrophenol	ND		220	6.8	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
3 & 4 Methylphenol	ND		220	16	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
3,3'-Dichlorobenzidine	ND	F2 F1	440	92	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
3-Nitroaniline	ND	F1	330	110	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4,6-Dinitro-2-methylphenol	ND	F2	1100	110	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Bromophenyl phenyl ether	ND		220	10	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Chloro-3-methylphenol	ND	F2	160	36	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Chloroaniline	ND		1600	150	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Chlorophenyl phenyl ether	ND		220	6.9	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Nitroaniline	ND		160	55	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
4-Nitrophenol	ND	F2	2200	190	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Acenaphthene	ND		44	5.0	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Acenaphthylene	ND		27	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1

Client Sample ID: High Top Solar B-REC-2A
Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-1
Matrix: Solid
Percent Solids: 89.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		66	18	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzo[a]anthracene	ND		44	12	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzo[a]pyrene	ND		66	14	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzo[b]fluoranthene	ND		44	11	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzo[g,h,i]perylene	ND		66	20	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzo[k]fluoranthene	ND		66	15	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzoic acid	ND	F1	4400	1300	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Benzyl alcohol	ND		1100	55	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Bis(2-chloroethoxy)methane	ND		220	20	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Bis(2-chloroethyl)ether	ND		110	8.4	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Bis(2-ethylhexyl) phthalate	**240**	**J**	660	78	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
bis(chloroisopropyl) ether	ND		220	6.7	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Butyl benzyl phthalate	ND		220	56	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Carbazole	ND		160	8.0	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Chrysene	ND		66	14	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Dibenz(a,h)anthracene	ND		55	13	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Dibenzofuran	ND		160	6.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Diethyl phthalate	ND		440	24	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Dimethyl phthalate	ND		160	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Di-n-butyl phthalate	ND		550	30	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Di-n-octyl phthalate	ND		160	13	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Fluoranthene	ND		44	13	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Fluorene	ND	F2	27	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Hexachlorobenzene	ND		55	16	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Hexachlorobutadiene	ND		55	16	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Hexachlorocyclopentadiene	ND	F1	110	8.4	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Hexachloroethane	ND		160	4.7	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Indeno[1,2,3-cd]pyrene	ND		44	13	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Isophorone	ND		160	9.2	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Naphthalene	ND		27	5.5	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Nitrobenzene	ND		220	22	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
N-Nitrosodi-n-propylamine	ND		220	24	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
N-Nitrosodiphenylamine	ND		66	8.8	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Pentachlorophenol	ND	F2	440	69	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Phenanthrene	ND		66	6.4	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Phenol	ND		160	25	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1
Pyrene	ND		66	14	ug/Kg	☼	12/04/20 15:42	12/08/20 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*82*		*47 - 119*	*12/04/20 15:42*	*12/08/20 16:34*	*1*
Phenol-d5 (Surr)	*75*		*59 - 120*	*12/04/20 15:42*	*12/08/20 16:34*	*1*
Nitrobenzene-d5 (Surr)	*79*		*54 - 120*	*12/04/20 15:42*	*12/08/20 16:34*	*1*
2-Fluorobiphenyl	*86*		*57 - 120*	*12/04/20 15:42*	*12/08/20 16:34*	*1*
2,4,6-Tribromophenol (Surr)	*85*		*52 - 115*	*12/04/20 15:42*	*12/08/20 16:34*	*1*
Terphenyl-d14 (Surr)	*95*		*73 - 125*	*12/04/20 15:42*	*12/08/20 16:34*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12	5.5	mg/Kg	☼	12/07/20 16:09	12/08/20 09:30	1

Client Sample ID: High Top Solar B-REC-2A

Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-1

Matrix: Solid
Percent Solids: 89.0

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*12/07/20 16:09*	*12/08/20 09:30*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	**26**	**J**	52	13	mg/Kg	☼	12/04/20 13:02	12/07/20 21:03	1
Motor Oil (>C24-C36)	**220**		52	18	mg/Kg	☼	12/04/20 13:02	12/07/20 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*12/04/20 13:02*	*12/07/20 21:03*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.7**		2.8	0.23	mg/Kg	☼	12/10/20 11:47	12/11/20 17:08	1
Cadmium	ND		0.93	0.046	mg/Kg	☼	12/10/20 11:47	12/11/20 17:08	1
Chromium	**12**	**^**	1.2	0.20	mg/Kg	☼	12/10/20 11:47	12/11/20 17:08	1
Lead	**11**		1.4	0.21	mg/Kg	☼	12/10/20 11:47	12/11/20 17:08	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0071**	**J F1**	0.021	0.0062	mg/Kg	☼	12/11/20 12:16	12/11/20 17:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**89.0**		0.1	0.1	%			12/07/20 14:48	1
Percent Moisture	**11.0**		0.1	0.1	%			12/07/20 14:48	1

Client Sample ID: High Top Solar B-REC-2B

Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-2

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	H H3 *+	2.3	0.57	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Chloromethane	ND	H H3	5.8	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Vinyl chloride	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Bromomethane	ND	H H3	1.2	0.24	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Chloroethane	ND	H H3	12	0.87	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Trichlorofluoromethane	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1-Dichloroethene	ND	H H3	5.8	1.3	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Methylene Chloride	**14**	**J H H3**	46	11	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
trans-1,2-Dichloroethene	ND	H H3	2.3	0.46	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1-Dichloroethane	ND	H H3	1.2	0.22	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
2,2-Dichloropropane	ND	H H3	5.8	0.38	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
cis-1,2-Dichloroethene	ND	H H3	3.5	0.69	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Bromochloromethane	ND	H H3	2.3	0.29	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Chloroform	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1,1-Trichloroethane	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Carbon tetrachloride	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1-Dichloropropene	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Benzene	ND	H H3	2.3	0.45	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2-Dichloroethane	ND	H H3	1.2	0.23	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Trichloroethene	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2-Dichloropropane	ND	H H3	2.3	0.46	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Dibromomethane	ND	H H3	1.2	0.20	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Bromodichloromethane	ND	H H3	1.2	0.21	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
cis-1,3-Dichloropropene	ND	H H3	1.2	0.23	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Toluene	**6.5**	**J H H3**	12	1.5	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
trans-1,3-Dichloropropene	ND	H H3	12	0.69	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1,2-Trichloroethane	ND	H H3	2.3	0.29	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Tetrachloroethene	ND	H H3	2.3	0.46	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,3-Dichloropropane	ND	H H3	2.3	0.27	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Dibromochloromethane	ND	H H3	1.7	0.31	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2-Dibromoethane	ND	H H3	1.2	0.23	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Chlorobenzene	ND	H H3	2.3	0.29	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Ethylbenzene	ND	H H3	2.3	0.47	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1,1,2-Tetrachloroethane	ND	H H3	3.5	0.68	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,1,2,2-Tetrachloroethane	ND	H H3	4.6	1.0	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
m-Xylene & p-Xylene	**1.8**	**J H H3**	12	0.65	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
o-Xylene	ND	H H3	5.8	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Styrene	ND	H H3	3.5	0.86	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Bromoform	ND	H H3	5.8	0.97	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Isopropylbenzene	ND	H H3	2.3	0.53	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Bromobenzene	ND	H H3	12	1.2	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
N-Propylbenzene	ND	H H3	5.8	0.88	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2,3-Trichloropropane	ND	H H3	5.8	1.2	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
2-Chlorotoluene	ND	H H3	5.8	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,3,5-Trimethylbenzene	ND	H H3	5.8	0.94	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
4-Chlorotoluene	ND	H H3	5.8	1.2	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
t-Butylbenzene	ND	H H3	3.5	0.76	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2,4-Trimethylbenzene	ND	H H3	5.8	1.4	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
sec-Butylbenzene	ND	H H3	3.5	0.78	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1

Client Sample ID: High Top Solar B-REC-2B

Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-2

Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND	H H3	5.8	1.3	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
4-Isopropyltoluene	ND	H H3	2.3	0.46	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,4-Dichlorobenzene	ND	H H3	5.8	1.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
n-Butylbenzene	ND	H H3	3.5	0.73	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2-Dichlorobenzene	ND	H H3	12	1.5	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2-Dibromo-3-Chloropropane	ND	H H3	12	1.9	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2,4-Trichlorobenzene	ND	H H3	2.3	0.49	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
1,2,3-Trichlorobenzene	ND	H H3	3.5	0.69	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Hexachlorobutadiene	ND	H H3	3.5	0.69	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Naphthalene	**13**	**H H3 B**	12	2.1	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1
Methyl tert-butyl ether	ND	H H3	2.3	0.35	ug/Kg	☼	12/03/20 16:35	12/11/20 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*156*	*S1+*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:38*	*1*
4-Bromofluorobenzene (Surr)	*71*	*S1-*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:38*	*1*
Dibromofluoromethane (Surr)	*78*	*S1-*	*80 - 120*	*12/03/20 16:35*	*12/11/20 21:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*46*	*S1-*	*80 - 121*	*12/03/20 16:35*	*12/11/20 21:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		52	6.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
1,2-Dichlorobenzene	ND		52	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
1,3-Dichlorobenzene	ND		52	5.0	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
1,4-Dichlorobenzene	ND		52	8.6	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
1-Methylnaphthalene	ND		31	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4,5-Trichlorophenol	ND		210	8.4	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4,6-Trichlorophenol	ND		160	14	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4-Dichlorophenol	ND		210	62	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4-Dimethylphenol	ND		210	62	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4-Dinitrophenol	ND		2100	610	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,4-Dinitrotoluene	ND		210	45	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2,6-Dinitrotoluene	ND		160	16	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Chloronaphthalene	ND		26	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Chlorophenol	ND		210	4.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Methylnaphthalene	ND		52	9.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Methylphenol	ND		160	10	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Nitroaniline	ND		100	16	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
2-Nitrophenol	ND		210	6.5	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
3 & 4 Methylphenol	ND		210	16	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
3,3'-Dichlorobenzidine	ND		420	87	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
3-Nitroaniline	ND		310	100	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Bromophenyl phenyl ether	ND		210	9.5	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Chloro-3-methylphenol	ND		160	34	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Chloroaniline	ND		1600	140	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Chlorophenyl phenyl ether	ND		210	6.6	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Nitroaniline	ND		160	52	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
4-Nitrophenol	ND		2100	180	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Acenaphthene	ND		42	4.8	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Acenaphthylene	ND		26	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1

Client Sample ID: High Top Solar B-REC-2B
Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Lab Sample ID: 580-99489-2
Matrix: Solid
Percent Solids: 88.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		62	17	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzo[a]anthracene	ND		42	11	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzo[a]pyrene	ND		62	14	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzo[b]fluoranthene	ND		42	10	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzo[g,h,i]perylene	ND		62	19	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzo[k]fluoranthene	ND		62	15	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzoic acid	ND		4200	1300	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Benzyl alcohol	ND		1000	52	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Bis(2-chloroethoxy)methane	ND		210	19	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Bis(2-chloroethyl)ether	ND		100	8.0	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Bis(2-ethylhexyl) phthalate	ND		620	74	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
bis(chloroisopropyl) ether	ND		210	6.4	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Butyl benzyl phthalate	ND		210	53	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Carbazole	ND		160	7.6	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Chrysene	ND		62	14	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Dibenz(a,h)anthracene	ND		52	12	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Dibenzofuran	ND		160	6.1	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Diethyl phthalate	ND		420	23	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Dimethyl phthalate	ND		160	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Di-n-butyl phthalate	ND		520	28	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Di-n-octyl phthalate	**27**	**J**	160	12	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Fluoranthene	ND		42	12	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Fluorene	ND		26	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Hexachlorobenzene	ND		52	16	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Hexachlorobutadiene	ND		52	16	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Hexachlorocyclopentadiene	ND		100	8.0	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Hexachloroethane	ND		160	4.5	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Indeno[1,2,3-cd]pyrene	ND		42	12	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Isophorone	ND		160	8.7	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Naphthalene	ND		26	5.2	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Nitrobenzene	ND		210	21	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
N-Nitrosodi-n-propylamine	ND		210	23	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
N-Nitrosodiphenylamine	ND		62	8.3	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Pentachlorophenol	ND		420	66	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Phenanthrene	ND		62	6.0	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Phenol	ND		160	24	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1
Pyrene	ND		62	14	ug/Kg	☼	12/04/20 15:42	12/08/20 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*84*		*47 - 119*	*12/04/20 15:42*	*12/08/20 17:43*	*1*
Phenol-d5 (Surr)	*67*		*59 - 120*	*12/04/20 15:42*	*12/08/20 17:43*	*1*
Nitrobenzene-d5 (Surr)	*77*		*54 - 120*	*12/04/20 15:42*	*12/08/20 17:43*	*1*
2-Fluorobiphenyl	*86*		*57 - 120*	*12/04/20 15:42*	*12/08/20 17:43*	*1*
2,4,6-Tribromophenol (Surr)	*79*		*52 - 115*	*12/04/20 15:42*	*12/08/20 17:43*	*1*
Terphenyl-d14 (Surr)	*93*		*73 - 125*	*12/04/20 15:42*	*12/08/20 17:43*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		12	5.6	mg/Kg	☼	12/07/20 16:09	12/08/20 09:54	1

Client Sample ID: High Top Solar B-REC-2B

Lab Sample ID: 580-99489-2

Date Collected: 11/30/20 00:00
Matrix: Solid
Date Received: 12/03/20 15:47
Percent Solids: 88.8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*	*12/07/20 16:09*	*12/08/20 09:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		53	13	mg/Kg	☼	12/04/20 13:02	12/07/20 21:23	1
Motor Oil (>C24-C36)	**100**		53	19	mg/Kg	☼	12/04/20 13:02	12/07/20 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*12/04/20 13:02*	*12/07/20 21:23*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.8**		2.4	0.20	mg/Kg	☼	12/10/20 11:47	12/11/20 17:11	1
Cadmium	**0.25**	**J**	0.81	0.040	mg/Kg	☼	12/10/20 11:47	12/11/20 17:11	1
Chromium	**14**	**^**	1.1	0.18	mg/Kg	☼	12/10/20 11:47	12/11/20 17:11	1
Lead	**10**		1.2	0.18	mg/Kg	☼	12/10/20 11:47	12/11/20 17:11	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.021**	**J**	0.024	0.0071	mg/Kg	☼	12/11/20 12:16	12/11/20 17:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**88.8**		0.1	0.1	%			12/07/20 14:48	1
Percent Moisture	**11.2**		0.1	0.1	%			12/07/20 14:48	1

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

Lab Sample ID: MB 580-345397/1-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0	0.49	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloromethane	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Vinyl chloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromomethane	ND		1.0	0.21	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroethane	ND		10	0.75	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichlorofluoromethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethene	ND		5.0	1.1	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Methylene Chloride	ND		40	9.9	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,2-Dichloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethane	ND		1.0	0.19	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2,2-Dichloropropane	ND		5.0	0.33	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,2-Dichloroethene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromochloromethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroform	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1-Trichloroethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Carbon tetrachloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloropropene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Benzene	ND		2.0	0.39	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichloroethene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloropropane	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromomethane	ND		1.0	0.17	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromodichloromethane	ND		1.0	0.18	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Toluene	ND		10	1.3	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,3-Dichloropropene	ND		10	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Tetrachloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3-Dichloropropane	ND		2.0	0.23	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromochloromethane	ND		1.5	0.27	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chlorobenzene	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1,2-Tetrachloroethane	ND		3.0	0.59	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.90	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
m-Xylene & p-Xylene	ND		10	0.56	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
o-Xylene	ND		5.0	0.92	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Styrene	ND		3.0	0.74	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromoform	ND		5.0	0.84	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Isopropylbenzene	ND		2.0	0.46	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromobenzene	ND		10	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
N-Propylbenzene	ND		5.0	0.76	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,3-Trichloropropane	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2-Chlorotoluene	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3,5-Trimethylbenzene	ND		5.0	0.81	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
t-Butylbenzene	ND		3.0	0.66	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,4-Trimethylbenzene	ND		5.0	1.2	ug/Kg		12/11/20 16:40	12/11/20 20:46	1

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

Lab Sample ID: MB 580-345397/1-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		3.0	0.67	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3-Dichlorobenzene	ND		5.0	1.1	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
4-Isopropyltoluene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,4-Dichlorobenzene	ND		5.0	0.98	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
n-Butylbenzene	ND		3.0	0.63	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichlorobenzene	ND		10	1.3	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dibromo-3-Chloropropane	ND		10	1.6	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,4-Trichlorobenzene	ND		2.0	0.42	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,3-Trichlorobenzene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Hexachlorobutadiene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Naphthalene	1.85	J	10	1.8	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*88*		*80 - 120*	*12/11/20 16:40*	*12/11/20 20:46*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*	*12/11/20 16:40*	*12/11/20 20:46*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*	*12/11/20 16:40*	*12/11/20 20:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*80 - 121*	*12/11/20 16:40*	*12/11/20 20:46*	*1*

Lab Sample ID: LCS 580-345397/2-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	20.0	35.0	*+	ug/Kg		175	24 - 150
Chloromethane	20.0	27.8		ug/Kg		139	52 - 150
Vinyl chloride	20.0	24.3		ug/Kg		122	54 - 150
Bromomethane	20.0	26.6		ug/Kg		133	42 - 150
Chloroethane	20.0	24.0		ug/Kg		120	50 - 150
Trichlorofluoromethane	20.0	22.8		ug/Kg		114	71 - 150
1,1-Dichloroethene	20.0	25.4		ug/Kg		127	73 - 143
Methylene Chloride	20.0	22.9	J	ug/Kg		114	66 - 140
trans-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	77 - 134
1,1-Dichloroethane	20.0	21.9		ug/Kg		110	78 - 135
2,2-Dichloropropane	20.0	22.0		ug/Kg		110	62 - 150
cis-1,2-Dichloroethene	20.0	22.2		ug/Kg		111	68 - 132
Bromochloromethane	20.0	23.0		ug/Kg		115	76 - 131
Chloroform	20.0	20.7		ug/Kg		103	74 - 133
1,1,1-Trichloroethane	20.0	21.3		ug/Kg		106	78 - 144
Carbon tetrachloride	20.0	22.4		ug/Kg		112	66 - 150
1,1-Dichloropropene	20.0	20.9		ug/Kg		104	76 - 140
Benzene	20.0	21.8		ug/Kg		109	79 - 135
1,2-Dichloroethane	20.0	22.4		ug/Kg		112	76 - 132
Trichloroethene	20.0	21.7		ug/Kg		109	80 - 134
1,2-Dichloropropane	20.0	22.0		ug/Kg		110	65 - 136
Dibromomethane	20.0	23.5		ug/Kg		118	72 - 130
Bromodichloromethane	20.0	20.3		ug/Kg		102	73 - 125
cis-1,3-Dichloropropene	20.0	18.5		ug/Kg		93	80 - 122

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

Lab Sample ID: LCS 580-345397/2-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	20.0	18.2		ug/Kg		91	75 - 137
trans-1,3-Dichloropropene	20.0	18.3		ug/Kg		91	80 - 121
1,1,2-Trichloroethane	20.0	20.1		ug/Kg		101	80 - 123
Tetrachloroethene	20.0	17.3		ug/Kg		87	58 - 150
1,3-Dichloropropane	20.0	19.3		ug/Kg		96	75 - 120
Dibromochloromethane	20.0	18.8		ug/Kg		94	75 - 132
1,2-Dibromoethane	20.0	20.6		ug/Kg		103	77 - 123
Chlorobenzene	20.0	18.3		ug/Kg		91	80 - 131
Ethylbenzene	20.0	19.6		ug/Kg		98	80 - 135
1,1,1,2-Tetrachloroethane	20.0	18.4		ug/Kg		92	79 - 128
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/Kg		97	77 - 127
m-Xylene & p-Xylene	20.0	17.1		ug/Kg		86	80 - 132
o-Xylene	20.0	19.1		ug/Kg		95	80 - 132
Styrene	20.0	18.4		ug/Kg		92	79 - 129
Bromoform	20.0	19.0		ug/Kg		95	71 - 146
Isopropylbenzene	20.0	18.9		ug/Kg		94	81 - 140
Bromobenzene	20.0	19.2		ug/Kg		96	78 - 126
N-Propylbenzene	20.0	17.8		ug/Kg		89	68 - 149
1,2,3-Trichloropropane	20.0	19.7		ug/Kg		98	77 - 127
2-Chlorotoluene	20.0	16.6		ug/Kg		83	77 - 134
1,3,5-Trimethylbenzene	20.0	17.8		ug/Kg		89	72 - 142
4-Chlorotoluene	20.0	16.8		ug/Kg		84	71 - 137
t-Butylbenzene	20.0	17.4		ug/Kg		87	72 - 144
1,2,4-Trimethylbenzene	20.0	17.8		ug/Kg		89	73 - 138
sec-Butylbenzene	20.0	18.0		ug/Kg		90	71 - 143
1,3-Dichlorobenzene	20.0	18.3		ug/Kg		91	78 - 132
4-Isopropyltoluene	20.0	17.8		ug/Kg		89	71 - 142
1,4-Dichlorobenzene	20.0	18.4		ug/Kg		92	77 - 123
n-Butylbenzene	20.0	16.8		ug/Kg		84	69 - 143
1,2-Dichlorobenzene	20.0	18.5		ug/Kg		93	78 - 126
1,2-Dibromo-3-Chloropropane	20.0	20.1		ug/Kg		100	75 - 129
1,2,4-Trichlorobenzene	20.0	20.0		ug/Kg		100	74 - 131
1,2,3-Trichlorobenzene	20.0	19.5		ug/Kg		97	68 - 136
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150
Naphthalene	20.0	21.5		ug/Kg		107	64 - 136
Methyl tert-butyl ether	20.0	24.0		ug/Kg		120	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*

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

Lab Sample ID: LCSD 580-345397/3-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	20.0	42.0	*+	ug/Kg		210	24 - 150	18	40
Chloromethane	20.0	28.9		ug/Kg		144	52 - 150	4	26
Vinyl chloride	20.0	27.8		ug/Kg		139	54 - 150	13	40
Bromomethane	20.0	27.0		ug/Kg		135	42 - 150	2	40
Chloroethane	20.0	25.4		ug/Kg		127	50 - 150	6	31
Trichlorofluoromethane	20.0	23.4		ug/Kg		117	71 - 150	3	36
1,1-Dichloroethene	20.0	25.8		ug/Kg		129	73 - 143	2	34
Methylene Chloride	20.0	24.7	J	ug/Kg		124	66 - 140	8	30
trans-1,2-Dichloroethene	20.0	21.2		ug/Kg		106	77 - 134	2	33
1,1-Dichloroethane	20.0	22.3		ug/Kg		112	78 - 135	2	31
2,2-Dichloropropane	20.0	22.7		ug/Kg		113	62 - 150	3	40
cis-1,2-Dichloroethene	20.0	22.2		ug/Kg		111	68 - 132	0	32
Bromochloromethane	20.0	23.6		ug/Kg		118	76 - 131	3	28
Chloroform	20.0	21.0		ug/Kg		105	74 - 133	1	36
1,1,1-Trichloroethane	20.0	21.9		ug/Kg		109	78 - 144	3	38
Carbon tetrachloride	20.0	22.7		ug/Kg		114	66 - 150	1	39
1,1-Dichloropropene	20.0	21.3		ug/Kg		106	76 - 140	2	38
Benzene	20.0	22.8		ug/Kg		114	79 - 135	4	31
1,2-Dichloroethane	20.0	23.2		ug/Kg		116	76 - 132	4	29
Trichloroethene	20.0	21.7		ug/Kg		108	80 - 134	0	40
1,2-Dichloropropane	20.0	23.4		ug/Kg		117	65 - 136	6	37
Dibromomethane	20.0	23.8		ug/Kg		119	72 - 130	1	34
Bromodichloromethane	20.0	20.8		ug/Kg		104	73 - 125	2	40
cis-1,3-Dichloropropene	20.0	19.1		ug/Kg		96	80 - 122	3	40
Toluene	20.0	19.0		ug/Kg		95	75 - 137	4	34
trans-1,3-Dichloropropene	20.0	19.0		ug/Kg		95	80 - 121	4	40
1,1,2-Trichloroethane	20.0	20.2		ug/Kg		101	80 - 123	1	39
Tetrachloroethene	20.0	17.5		ug/Kg		87	58 - 150	1	40
1,3-Dichloropropane	20.0	20.1		ug/Kg		101	75 - 120	4	37
Dibromochloromethane	20.0	19.1		ug/Kg		96	75 - 132	2	40
1,2-Dibromoethane	20.0	21.5		ug/Kg		107	77 - 123	4	37
Chlorobenzene	20.0	19.0		ug/Kg		95	80 - 131	4	40
Ethylbenzene	20.0	20.5		ug/Kg		103	80 - 135	5	37
1,1,1,2-Tetrachloroethane	20.0	18.9		ug/Kg		95	79 - 128	3	40
1,1,2,2-Tetrachloroethane	20.0	19.5		ug/Kg		97	77 - 127	1	40
m-Xylene & p-Xylene	20.0	17.6		ug/Kg		88	80 - 132	3	38
o-Xylene	20.0	20.0		ug/Kg		100	80 - 132	5	39
Styrene	20.0	19.0		ug/Kg		95	79 - 129	3	40
Bromoform	20.0	18.4		ug/Kg		92	71 - 146	3	40
Isopropylbenzene	20.0	19.2		ug/Kg		96	81 - 140	2	40
Bromobenzene	20.0	19.6		ug/Kg		98	78 - 126	2	40
N-Propylbenzene	20.0	18.6		ug/Kg		93	68 - 149	4	40
1,2,3-Trichloropropane	20.0	19.0		ug/Kg		95	77 - 127	3	40
2-Chlorotoluene	20.0	17.8		ug/Kg		89	77 - 134	7	40
1,3,5-Trimethylbenzene	20.0	18.4		ug/Kg		92	72 - 142	3	40
4-Chlorotoluene	20.0	17.3		ug/Kg		87	71 - 137	3	40
t-Butylbenzene	20.0	18.0		ug/Kg		90	72 - 144	3	40
1,2,4-Trimethylbenzene	20.0	18.7		ug/Kg		94	73 - 138	5	40

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

Lab Sample ID: LCSD 580-345397/3-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	20.0	18.5		ug/Kg		93	71 - 143	3	40
1,3-Dichlorobenzene	20.0	19.2		ug/Kg		96	78 - 132	5	40
4-Isopropyltoluene	20.0	18.6		ug/Kg		93	71 - 142	5	40
1,4-Dichlorobenzene	20.0	19.3		ug/Kg		96	77 - 123	4	40
n-Butylbenzene	20.0	17.7		ug/Kg		88	69 - 143	6	40
1,2-Dichlorobenzene	20.0	19.4		ug/Kg		97	78 - 126	4	40
1,2-Dibromo-3-Chloropropane	20.0	19.0		ug/Kg		95	75 - 129	5	40
1,2,4-Trichlorobenzene	20.0	20.4		ug/Kg		102	74 - 131	2	40
1,2,3-Trichlorobenzene	20.0	19.3		ug/Kg		97	68 - 136	1	40
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150	0	36
Naphthalene	20.0	20.8		ug/Kg		104	64 - 136	3	40
Methyl tert-butyl ether	20.0	25.0		ug/Kg		125	77 - 132	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 121*

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

Lab Sample ID: MB 580-344832/1-A
Matrix: Solid
Analysis Batch: 345098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344832

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50	6.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
1,2-Dichlorobenzene	ND		50	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
1,3-Dichlorobenzene	ND		50	4.8	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
1,4-Dichlorobenzene	ND		50	8.3	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
1-Methylnaphthalene	22.4	J	30	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4,5-Trichlorophenol	ND		200	8.1	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4,6-Trichlorophenol	ND		150	13	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4-Dichlorophenol	ND		200	60	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4-Dimethylphenol	ND		200	60	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4-Dinitrophenol	ND		2000	590	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,4-Dinitrotoluene	ND		200	43	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2,6-Dinitrotoluene	ND		150	15	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Chloronaphthalene	ND		25	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Chlorophenol	ND		200	4.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Methylnaphthalene	36.5	J	50	8.8	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Methylphenol	ND		150	9.8	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Nitroaniline	ND		100	15	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
2-Nitrophenol	ND		200	6.2	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
3 & 4 Methylphenol	ND		200	15	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
3,3'-Dichlorobenzidine	ND		400	84	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
3-Nitroaniline	ND		300	100	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4-Bromophenyl phenyl ether	ND		200	9.1	ug/Kg		12/04/20 15:42	12/09/20 12:07	1

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

Lab Sample ID: MB 580-344832/1-A
Matrix: Solid
Analysis Batch: 345098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344832

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	ND		150	33	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4-Chloroaniline	ND		1500	130	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4-Chlorophenyl phenyl ether	ND		200	6.3	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4-Nitroaniline	ND		150	50	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
4-Nitrophenol	ND		2000	170	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Acenaphthene	ND		40	4.6	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Acenaphthylene	ND		25	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Anthracene	21.8	J	60	16	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzo[a]anthracene	ND		40	11	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzo[a]pyrene	ND		60	13	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzo[b]fluoranthene	ND		40	10	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzo[g,h,i]perylene	ND		60	18	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzo[k]fluoranthene	ND		60	14	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzoic acid	ND		4000	1200	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Benzyl alcohol	ND		1000	50	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Bis(2-chloroethyl)ether	ND		100	7.7	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Bis(2-ethylhexyl) phthalate	ND		600	71	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
bis(chloroisopropyl) ether	ND		200	6.1	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Butyl benzyl phthalate	ND		200	51	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Carbazole	ND		150	7.3	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Chrysene	ND		60	13	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Dibenz(a,h)anthracene	ND		50	12	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Dibenzofuran	ND		150	5.9	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Diethyl phthalate	ND		400	22	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Dimethyl phthalate	ND		150	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Di-n-butyl phthalate	ND		500	27	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Di-n-octyl phthalate	ND		150	12	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Fluoranthene	ND		40	12	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Fluorene	ND		25	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Hexachlorobenzene	ND		50	15	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Hexachlorobutadiene	ND		50	15	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Hexachlorocyclopentadiene	ND		100	7.7	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Hexachloroethane	ND		150	4.3	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Indeno[1,2,3-cd]pyrene	ND		40	12	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Isophorone	ND		150	8.4	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Naphthalene	88.1		25	5.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Nitrobenzene	ND		200	20	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
N-Nitrosodi-n-propylamine	ND		200	22	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
N-Nitrosodiphenylamine	ND		60	8.0	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Pentachlorophenol	ND		400	63	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Phenanthrene	ND		60	5.8	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Phenol	ND		150	23	ug/Kg		12/04/20 15:42	12/09/20 12:07	1
Pyrene	ND		60	13	ug/Kg		12/04/20 15:42	12/09/20 12:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*91*		*47 - 119*	*12/04/20 15:42*	*12/09/20 12:07*	*1*
Phenol-d5 (Surr)	*65*		*59 - 120*	*12/04/20 15:42*	*12/09/20 12:07*	*1*

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

Lab Sample ID: MB 580-344832/1-A
Matrix: Solid
Analysis Batch: 345098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344832

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	83		54 - 120	12/04/20 15:42	12/09/20 12:07	1
2-Fluorobiphenyl	87		57 - 120	12/04/20 15:42	12/09/20 12:07	1
2,4,6-Tribromophenol (Surr)	88		52 - 115	12/04/20 15:42	12/09/20 12:07	1
Terphenyl-d14 (Surr)	93		73 - 125	12/04/20 15:42	12/09/20 12:07	1

Lab Sample ID: LCS 580-344832/2-A
Matrix: Solid
Analysis Batch: 345098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	1000	869		ug/Kg		87	66 - 120
1,2-Dichlorobenzene	1000	853		ug/Kg		85	62 - 120
1,3-Dichlorobenzene	1000	834		ug/Kg		83	57 - 120
1,4-Dichlorobenzene	1000	929		ug/Kg		93	57 - 120
1-Methylnaphthalene	1000	915		ug/Kg		91	69 - 120
2,4,5-Trichlorophenol	1000	911		ug/Kg		91	41 - 120
2,4,6-Trichlorophenol	1000	795		ug/Kg		79	37 - 120
2,4-Dichlorophenol	1000	826		ug/Kg		83	63 - 120
2,4-Dimethylphenol	1000	775		ug/Kg		77	31 - 129
2,4-Dinitrophenol	2000	613	J	ug/Kg		31	10 - 139
2,4-Dinitrotoluene	1000	748		ug/Kg		75	63 - 120
2,6-Dinitrotoluene	1000	873		ug/Kg		87	70 - 126
2-Chloronaphthalene	1000	878		ug/Kg		88	65 - 120
2-Chlorophenol	1000	905		ug/Kg		91	66 - 120
2-Methylnaphthalene	1000	1060		ug/Kg		106	70 - 120
2-Methylphenol	1000	689		ug/Kg		69	53 - 120
2-Nitroaniline	1000	827		ug/Kg		83	54 - 126
2-Nitrophenol	1000	884		ug/Kg		88	49 - 123
3 & 4 Methylphenol	1000	750		ug/Kg		75	54 - 120
3,3'-Dichlorobenzidine	2000	1800		ug/Kg		90	49 - 148
3-Nitroaniline	1000	721		ug/Kg		72	34 - 120
4,6-Dinitro-2-methylphenol	2000	1180		ug/Kg		59	13 - 141
4-Bromophenyl phenyl ether	1000	817		ug/Kg		82	65 - 127
4-Chloro-3-methylphenol	1000	811		ug/Kg		81	55 - 120
4-Chloroaniline	1000	283	J	ug/Kg		28	10 - 120
4-Chlorophenyl phenyl ether	1000	798		ug/Kg		80	70 - 120
4-Nitroaniline	1000	860		ug/Kg		86	36 - 141
4-Nitrophenol	2000	1510	J	ug/Kg		75	10 - 140
Acenaphthene	1000	841		ug/Kg		84	64 - 120
Acenaphthylene	1000	872		ug/Kg		87	63 - 120
Anthracene	1000	920		ug/Kg		92	67 - 131
Benzo[a]anthracene	1000	1050		ug/Kg		105	60 - 135
Benzo[a]pyrene	1000	900		ug/Kg		90	62 - 129
Benzo[b]fluoranthene	1000	853		ug/Kg		85	58 - 136
Benzo[g,h,i]perylene	1000	919		ug/Kg		92	64 - 146
Benzo[k]fluoranthene	1000	1040		ug/Kg		104	68 - 123
Benzoic acid	2000	ND		ug/Kg		48	10 - 120
Benzyl alcohol	1000	650	J	ug/Kg		65	10 - 134

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

Lab Sample ID: LCS 580-344832/2-A
Matrix: Solid
Analysis Batch: 345098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	1000	809		ug/Kg		81	60 - 120
Bis(2-chloroethyl)ether	1000	890		ug/Kg		89	61 - 120
Bis(2-ethylhexyl) phthalate	1000	1170		ug/Kg		117	45 - 150
bis(chloroisopropyl) ether	1000	731		ug/Kg		73	55 - 120
Butyl benzyl phthalate	1000	1130		ug/Kg		113	58 - 150
Carbazole	1000	870		ug/Kg		87	43 - 150
Chrysene	1000	1080		ug/Kg		108	69 - 127
Dibenz(a,h)anthracene	1000	950		ug/Kg		95	59 - 139
Dibenzofuran	1000	824		ug/Kg		82	68 - 120
Diethyl phthalate	1000	886		ug/Kg		89	66 - 135
Dimethyl phthalate	1000	887		ug/Kg		89	71 - 120
Di-n-butyl phthalate	1000	1020		ug/Kg		102	66 - 150
Di-n-octyl phthalate	1000	1010		ug/Kg		101	53 - 150
Fluoranthene	1000	905		ug/Kg		90	69 - 133
Fluorene	1000	857		ug/Kg		86	68 - 121
Hexachlorobenzene	1000	953		ug/Kg		95	65 - 126
Hexachlorobutadiene	1000	894		ug/Kg		89	64 - 130
Hexachlorocyclopentadiene	1000	722		ug/Kg		72	53 - 131
Hexachloroethane	1000	933		ug/Kg		93	57 - 132
Indeno[1,2,3-cd]pyrene	1000	805		ug/Kg		81	52 - 146
Isophorone	1000	860		ug/Kg		86	61 - 128
Naphthalene	1000	903		ug/Kg		90	68 - 120
Nitrobenzene	1000	828		ug/Kg		83	57 - 128
N-Nitrosodi-n-propylamine	1000	844		ug/Kg		84	56 - 138
N-Nitrosodiphenylamine	1000	863		ug/Kg		86	67 - 128
Pentachlorophenol	2000	1600		ug/Kg		80	10 - 120
Phenanthrene	1000	895		ug/Kg		90	68 - 126
Phenol	1000	704		ug/Kg		70	59 - 120
Pyrene	1000	895		ug/Kg		89	68 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*91*		*47 - 119*
Phenol-d5 (Surr)	*85*		*59 - 120*
Nitrobenzene-d5 (Surr)	*89*		*54 - 120*
2-Fluorobiphenyl	*86*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*100*		*52 - 115*
Terphenyl-d14 (Surr)	*101*		*73 - 125*

Lab Sample ID: 580-99489-1 MS
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	ND		1070	947		ug/Kg	☼	88	66 - 120
1,2-Dichlorobenzene	ND		1070	870		ug/Kg	☼	81	62 - 120
1,3-Dichlorobenzene	ND		1070	827		ug/Kg	☼	77	57 - 120
1,4-Dichlorobenzene	ND		1070	864		ug/Kg	☼	81	57 - 120
1-Methylnaphthalene	ND		1070	905		ug/Kg	☼	85	69 - 120

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

Lab Sample ID: 580-99489-1 MS
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	ND	F2	1070	712		ug/Kg	☼	67	41 - 120
2,4,6-Trichlorophenol	ND	F2	1070	814		ug/Kg	☼	76	37 - 120
2,4-Dichlorophenol	ND		1070	859		ug/Kg	☼	80	63 - 120
2,4-Dimethylphenol	ND		1070	865		ug/Kg	☼	81	31 - 129
2,4-Dinitrophenol	ND	F1	2140	ND	F1	ug/Kg	☼	0	10 - 139
2,4-Dinitrotoluene	ND	F2	1070	688		ug/Kg	☼	64	63 - 120
2,6-Dinitrotoluene	ND	F2	1070	824		ug/Kg	☼	77	70 - 126
2-Chloronaphthalene	ND		1070	804		ug/Kg	☼	75	65 - 120
2-Chlorophenol	ND		1070	763		ug/Kg	☼	71	66 - 120
2-Methylnaphthalene	ND		1070	1200		ug/Kg	☼	112	70 - 120
2-Methylphenol	ND		1070	711		ug/Kg	☼	66	53 - 120
2-Nitroaniline	ND		1070	730		ug/Kg	☼	68	54 - 126
2-Nitrophenol	ND		1070	854		ug/Kg	☼	80	49 - 123
3 & 4 Methylphenol	ND		1070	710		ug/Kg	☼	66	54 - 120
3,3'-Dichlorobenzidine	ND	F2 F1	2140	461	F1	ug/Kg	☼	22	49 - 148
3-Nitroaniline	ND	F1	1070	382		ug/Kg	☼	36	34 - 120
4,6-Dinitro-2-methylphenol	ND	F2	2140	723	J	ug/Kg	☼	34	13 - 141
4-Bromophenyl phenyl ether	ND		1070	948		ug/Kg	☼	89	65 - 127
4-Chloro-3-methylphenol	ND	F2	1070	722		ug/Kg	☼	67	55 - 120
4-Chloroaniline	ND		1070	200	J	ug/Kg	☼	19	10 - 120
4-Chlorophenyl phenyl ether	ND		1070	920		ug/Kg	☼	86	70 - 120
4-Nitroaniline	ND		1070	554		ug/Kg	☼	52	36 - 141
4-Nitrophenol	ND	F2	2140	1270	J	ug/Kg	☼	59	10 - 140
Acenaphthene	ND		1070	847		ug/Kg	☼	79	64 - 120
Acenaphthylene	ND		1070	827		ug/Kg	☼	77	63 - 120
Anthracene	ND		1070	872		ug/Kg	☼	82	67 - 131
Benzo[a]anthracene	ND		1070	831		ug/Kg	☼	78	60 - 135
Benzo[a]pyrene	ND		1070	867		ug/Kg	☼	81	62 - 129
Benzo[b]fluoranthene	ND		1070	905		ug/Kg	☼	85	58 - 136
Benzo[g,h,i]perylene	ND		1070	815		ug/Kg	☼	76	64 - 146
Benzo[k]fluoranthene	ND		1070	799		ug/Kg	☼	75	68 - 123
Benzoic acid	ND	F1	2140	ND	F1	ug/Kg	☼	0	10 - 120
Benzyl alcohol	ND		1070	566	J	ug/Kg	☼	53	10 - 134
Bis(2-chloroethoxy)methane	ND		1070	839		ug/Kg	☼	78	60 - 120
Bis(2-chloroethyl)ether	ND		1070	858		ug/Kg	☼	80	61 - 120
Bis(2-ethylhexyl) phthalate	240	J	1070	1150		ug/Kg	☼	85	45 - 150
bis(chloroisopropyl) ether	ND		1070	874		ug/Kg	☼	82	55 - 120
Butyl benzyl phthalate	ND		1070	1040		ug/Kg	☼	97	58 - 150
Carbazole	ND		1070	1030		ug/Kg	☼	96	43 - 150
Chrysene	ND		1070	899		ug/Kg	☼	84	69 - 127
Dibenz(a,h)anthracene	ND		1070	943		ug/Kg	☼	88	59 - 139
Dibenzofuran	ND		1070	880		ug/Kg	☼	82	68 - 120
Diethyl phthalate	ND		1070	858		ug/Kg	☼	80	66 - 135
Dimethyl phthalate	ND		1070	867		ug/Kg	☼	81	71 - 120
Di-n-butyl phthalate	ND		1070	1010		ug/Kg	☼	94	66 - 150
Di-n-octyl phthalate	ND		1070	953		ug/Kg	☼	89	53 - 150
Fluoranthene	ND		1070	955		ug/Kg	☼	89	69 - 133
Fluorene	ND	F2	1070	860		ug/Kg	☼	80	68 - 121
Hexachlorobenzene	ND		1070	928		ug/Kg	☼	87	65 - 126

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

Lab Sample ID: 580-99489-1 MS
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	ND		1070	1120		ug/Kg	☼	104	64 - 130
Hexachlorocyclopentadiene	ND	F1	1070	299	F1	ug/Kg	☼	28	53 - 131
Hexachloroethane	ND		1070	943		ug/Kg	☼	88	57 - 132
Indeno[1,2,3-cd]pyrene	ND		1070	849		ug/Kg	☼	79	52 - 146
Isophorone	ND		1070	917		ug/Kg	☼	86	61 - 128
Naphthalene	ND		1070	938		ug/Kg	☼	88	68 - 120
Nitrobenzene	ND		1070	1010		ug/Kg	☼	95	57 - 128
N-Nitrosodi-n-propylamine	ND		1070	882		ug/Kg	☼	82	56 - 138
N-Nitrosodiphenylamine	ND		1070	911		ug/Kg	☼	85	67 - 128
Pentachlorophenol	ND	F2	2140	843		ug/Kg	☼	39	10 - 120
Phenanthrene	ND		1070	888		ug/Kg	☼	83	68 - 126
Phenol	ND		1070	670		ug/Kg	☼	63	59 - 120
Pyrene	ND		1070	947		ug/Kg	☼	89	68 - 141

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*67*		*47 - 119*
Phenol-d5 (Surr)	*72*		*59 - 120*
Nitrobenzene-d5 (Surr)	*76*		*54 - 120*
2-Fluorobiphenyl	*75*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*82*		*52 - 115*
Terphenyl-d14 (Surr)	*80*		*73 - 125*

Lab Sample ID: 580-99489-1 MSD
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	ND		1100	1060		ug/Kg	☼	96	66 - 120	11	18
1,2-Dichlorobenzene	ND		1100	1020		ug/Kg	☼	93	62 - 120	16	30
1,3-Dichlorobenzene	ND		1100	991		ug/Kg	☼	90	57 - 120	18	29
1,4-Dichlorobenzene	ND		1100	1000		ug/Kg	☼	91	57 - 120	15	35
1-Methylnaphthalene	ND		1100	1070		ug/Kg	☼	97	69 - 120	17	24
2,4,5-Trichlorophenol	ND	F2	1100	919	F2	ug/Kg	☼	83	41 - 120	25	23
2,4,6-Trichlorophenol	ND	F2	1100	1050	F2	ug/Kg	☼	95	37 - 120	25	20
2,4-Dichlorophenol	ND		1100	932		ug/Kg	☼	85	63 - 120	8	19
2,4-Dimethylphenol	ND		1100	977		ug/Kg	☼	89	31 - 129	12	40
2,4-Dinitrophenol	ND	F1	2210	ND	F1	ug/Kg	☼	0	10 - 139	NC	40
2,4-Dinitrotoluene	ND	F2	1100	915	F2	ug/Kg	☼	83	63 - 120	28	23
2,6-Dinitrotoluene	ND	F2	1100	1040	F2	ug/Kg	☼	95	70 - 126	24	18
2-Chloronaphthalene	ND		1100	974		ug/Kg	☼	88	65 - 120	19	21
2-Chlorophenol	ND		1100	939		ug/Kg	☼	85	66 - 120	21	32
2-Methylnaphthalene	ND		1100	1320		ug/Kg	☼	119	70 - 120	9	21
2-Methylphenol	ND		1100	819		ug/Kg	☼	74	53 - 120	14	40
2-Nitroaniline	ND		1100	849		ug/Kg	☼	77	54 - 126	15	16
2-Nitrophenol	ND		1100	1010		ug/Kg	☼	92	49 - 123	17	30
3 & 4 Methylphenol	ND		1100	834		ug/Kg	☼	76	54 - 120	16	36
3,3'-Dichlorobenzidine	ND	F2 F1	2210	242	J F2 F1	ug/Kg	☼	11	49 - 148	62	40
3-Nitroaniline	ND	F1	1100	301	J F1	ug/Kg	☼	27	34 - 120	24	25

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

Lab Sample ID: 580-99489-1 MSD
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,6-Dinitro-2-methylphenol	ND	F2	2210	1090	J F2	ug/Kg	☼	49	13 - 141	41	40
4-Bromophenyl phenyl ether	ND		1100	1060		ug/Kg	☼	96	65 - 127	11	32
4-Chloro-3-methylphenol	ND	F2	1100	953	F2	ug/Kg	☼	86	55 - 120	28	25
4-Chloroaniline	ND		1100	179	J	ug/Kg	☼	16	10 - 120	11	40
4-Chlorophenyl phenyl ether	ND		1100	1070		ug/Kg	☼	97	70 - 120	15	21
4-Nitroaniline	ND		1100	587		ug/Kg	☼	53	36 - 141	6	23
4-Nitrophenol	ND	F2	2210	679	J F2	ug/Kg	☼	31	10 - 140	61	31
Acenaphthene	ND		1100	972		ug/Kg	☼	88	64 - 120	14	19
Acenaphthylene	ND		1100	968		ug/Kg	☼	88	63 - 120	16	18
Anthracene	ND		1100	976		ug/Kg	☼	89	67 - 131	11	28
Benzo[a]anthracene	ND		1100	924		ug/Kg	☼	84	60 - 135	11	21
Benzo[a]pyrene	ND		1100	953		ug/Kg	☼	86	62 - 129	9	27
Benzo[b]fluoranthene	ND		1100	997		ug/Kg	☼	90	58 - 136	10	25
Benzo[g,h,i]perylene	ND		1100	901		ug/Kg	☼	82	64 - 146	10	26
Benzo[k]fluoranthene	ND		1100	927		ug/Kg	☼	84	68 - 123	15	18
Benzoic acid	ND	F1	2210	ND	F1	ug/Kg	☼	0	10 - 120	NC	40
Benzyl alcohol	ND		1100	592	J	ug/Kg	☼	54	10 - 134	5	40
Bis(2-chloroethoxy)methane	ND		1100	995		ug/Kg	☼	90	60 - 120	17	33
Bis(2-chloroethyl)ether	ND		1100	1120		ug/Kg	☼	101	61 - 120	26	30
Bis(2-ethylhexyl) phthalate	240	J	1100	1390		ug/Kg	☼	104	45 - 150	19	25
bis(chloroisopropyl) ether	ND		1100	1040		ug/Kg	☼	95	55 - 120	18	33
Butyl benzyl phthalate	ND		1100	1220		ug/Kg	☼	111	58 - 150	16	27
Carbazole	ND		1100	1200		ug/Kg	☼	109	43 - 150	15	24
Chrysene	ND		1100	1010		ug/Kg	☼	92	69 - 127	12	27
Dibenz(a,h)anthracene	ND		1100	1040		ug/Kg	☼	94	59 - 139	10	29
Dibenzofuran	ND		1100	1050		ug/Kg	☼	95	68 - 120	18	18
Diethyl phthalate	ND		1100	1010		ug/Kg	☼	92	66 - 135	16	22
Dimethyl phthalate	ND		1100	1030		ug/Kg	☼	94	71 - 120	17	21
Di-n-butyl phthalate	ND		1100	1160		ug/Kg	☼	105	66 - 150	14	26
Di-n-octyl phthalate	ND		1100	1110		ug/Kg	☼	100	53 - 150	15	18
Fluoranthene	ND		1100	1040		ug/Kg	☼	94	69 - 133	9	21
Fluorene	ND	F2	1100	1030	F2	ug/Kg	☼	93	68 - 121	18	17
Hexachlorobenzene	ND		1100	984		ug/Kg	☼	89	65 - 126	6	32
Hexachlorobutadiene	ND		1100	1270		ug/Kg	☼	116	64 - 130	13	19
Hexachlorocyclopentadiene	ND	F1	1100	350	F1	ug/Kg	☼	32	53 - 131	16	21
Hexachloroethane	ND		1100	1080		ug/Kg	☼	98	57 - 132	14	34
Indeno[1,2,3-cd]pyrene	ND		1100	909		ug/Kg	☼	82	52 - 146	7	30
Isophorone	ND		1100	1120		ug/Kg	☼	102	61 - 128	20	31
Naphthalene	ND		1100	1020		ug/Kg	☼	92	68 - 120	8	15
Nitrobenzene	ND		1100	1300		ug/Kg	☼	118	57 - 128	25	33
N-Nitrosodi-n-propylamine	ND		1100	1090		ug/Kg	☼	99	56 - 138	22	35
N-Nitrosodiphenylamine	ND		1100	1010		ug/Kg	☼	91	67 - 128	10	30
Pentachlorophenol	ND	F2	2210	1390	F2	ug/Kg	☼	63	10 - 120	49	40
Phenanthrene	ND		1100	972		ug/Kg	☼	88	68 - 126	9	27
Phenol	ND		1100	841		ug/Kg	☼	76	59 - 120	23	30
Pyrene	ND		1100	1020		ug/Kg	☼	93	68 - 141	8	24

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

Lab Sample ID: 580-99489-1 MSD
Matrix: Solid
Analysis Batch: 344983

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 344832

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*79*		*47 - 119*
Phenol-d5 (Surr)	*87*		*59 - 120*
Nitrobenzene-d5 (Surr)	*83*		*54 - 120*
2-Fluorobiphenyl	*89*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*95*		*52 - 115*
Terphenyl-d14 (Surr)	*90*		*73 - 125*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-344970/1-A
Matrix: Solid
Analysis Batch: 345040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg		12/07/20 16:08	12/08/20 00:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*	*12/07/20 16:08*	*12/08/20 00:34*	*1*

Lab Sample ID: LCS 580-344970/2-A
Matrix: Solid
Analysis Batch: 345040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 344970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	37.8		mg/Kg		95	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*

Lab Sample ID: LCSD 580-344970/3-A
Matrix: Solid
Analysis Batch: 345040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 344970

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	37.8		mg/Kg		95	80 - 120	0	10

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-344824/1-A
Matrix: Solid
Analysis Batch: 344993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344824

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		12/04/20 13:02	12/07/20 19:02	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		12/04/20 13:02	12/07/20 19:02	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-344824/1-A
Matrix: Solid
Analysis Batch: 344993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 344824

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		50 - 150	12/04/20 13:02	12/07/20 19:02	1

Lab Sample ID: LCS 580-344824/2-A
Matrix: Solid
Analysis Batch: 344993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 344824

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	466		mg/Kg		93	70 - 125
Motor Oil (>C24-C36)	500	470		mg/Kg		94	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	83		50 - 150

Lab Sample ID: LCSD 580-344824/3-A
Matrix: Solid
Analysis Batch: 344993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 344824

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	465		mg/Kg		93	70 - 125	0	16
Motor Oil (>C24-C36)	500	465		mg/Kg		93	70 - 129	1	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	80		50 - 150

Lab Sample ID: 580-99489-2 DU
Matrix: Solid
Analysis Batch: 344993

Client Sample ID: High Top Solar B-REC-2B
Prep Type: Total/NA
Prep Batch: 344824

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
#2 Diesel (C10-C24)	ND		14.5	J	mg/Kg	☼	NC	35
Motor Oil (>C24-C36)	100		114		mg/Kg	☼	10	35

Surrogate	DU %Recovery	DU Qualifier	Limits
o-Terphenyl	88		50 - 150

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 580-345245/21-A
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345245

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0	0.25	mg/Kg		12/10/20 11:47	12/11/20 13:56	1
Cadmium	0.365	J	1.0	0.049	mg/Kg		12/10/20 11:47	12/11/20 13:56	1
Chromium	ND		1.3	0.22	mg/Kg		12/10/20 11:47	12/11/20 13:56	1
Lead	ND		1.5	0.22	mg/Kg		12/10/20 11:47	12/11/20 13:56	1

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

Lab Sample ID: LCS 580-345245/22-A
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345245

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	54.6		mg/Kg		109	80 - 120
Cadmium	50.0	57.5		mg/Kg		115	80 - 120
Chromium	50.0	53.6		mg/Kg		107	80 - 120
Lead	50.0	57.6		mg/Kg		115	80 - 120

Lab Sample ID: LCSD 580-345245/23-A
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345245

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	50.0	53.2		mg/Kg		106	80 - 120	3	20
Cadmium	50.0	55.3		mg/Kg		111	80 - 120	4	20
Chromium	50.0	51.9		mg/Kg		104	80 - 120	3	20
Lead	50.0	55.9		mg/Kg		112	80 - 120	3	20

Lab Sample ID: 580-99605-A-1-C MS
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 345245

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	15		45.2	65.5		mg/Kg	☼	112	80 - 120
Cadmium	0.16	J B	45.2	51.6		mg/Kg	☼	114	80 - 120
Chromium	21		45.2	75.7		mg/Kg	☼	120	80 - 120
Lead	48	F1	45.2	106	F1	mg/Kg	☼	129	80 - 120

Lab Sample ID: 580-99605-A-1-D MSD
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 345245

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	15		43.6	60.5		mg/Kg	☼	104	80 - 120	8	20
Cadmium	0.16	J B	43.6	49.3		mg/Kg	☼	113	80 - 120	4	20
Chromium	21		43.6	70.8		mg/Kg	☼	114	80 - 120	7	20
Lead	48	F1	43.6	97.0		mg/Kg	☼	112	80 - 120	9	20

Lab Sample ID: 580-99605-A-1-B DU
Matrix: Solid
Analysis Batch: 345371

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 345245

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	15		12.5		mg/Kg	☼	18	20
Cadmium	0.16	J B	0.107	J F5	mg/Kg	☼	38	20
Chromium	21		24.2		mg/Kg	☼	13	20
Lead	48	F1	46.3		mg/Kg	☼	4	20

QC Sample Results

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-345362/22-A
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345362

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		12/11/20 12:16	12/11/20 17:08	1

Lab Sample ID: LCS 580-345362/23-A
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345362

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.161		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-345362/24-A
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345362

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.161		mg/Kg		96	80 - 120	1	20

Lab Sample ID: 580-99489-1 MS
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 345362

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0071	J F1	0.121	0.178	F1	mg/Kg	☼	141	80 - 120

Lab Sample ID: 580-99489-1 MSD
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 345362

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0071	J F1	0.122	0.177	F1	mg/Kg	☼	139	80 - 120	1	20

Lab Sample ID: 580-99489-1 DU
Matrix: Solid
Analysis Batch: 345462

Client Sample ID: High Top Solar B-REC-2A
Prep Type: Total/NA
Prep Batch: 345362

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.0071	J F1	0.00998	J F5	mg/Kg	☼	34	20

Method: 2540G - SM 2540G

Lab Sample ID: 580-99502-A-5 DU
Matrix: Solid
Analysis Batch: 344957

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.0		89.7		%		0.8	20
Percent Moisture	11.0		10.3		%		7	20

Lab Chronicle

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Client Sample ID: High Top Solar B-REC-2A

Lab Sample ID: 580-99489-1
Matrix: Solid
Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	344957	12/07/20 14:48	NRS	TAL SEA

Client Sample ID: High Top Solar B-REC-2A

Lab Sample ID: 580-99489-1
Matrix: Solid
Date Collected: 11/30/20 00:00
Percent Solids: 89.0
Date Received: 12/03/20 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			345397	12/03/20 16:35	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	345537	12/11/20 21:12	CJB	TAL SEA
Total/NA	Prep	3546			344832	12/04/20 15:42	S1S	TAL SEA
Total/NA	Analysis	8270E		1	344983	12/08/20 16:34	W1T	TAL SEA
Total/NA	Prep	5035			344970	12/07/20 16:09	JSM	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	345040	12/08/20 09:30	JSM	TAL SEA
Total/NA	Prep	3546			344824	12/04/20 13:02	S1S	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	344993	12/07/20 21:03	ADB	TAL SEA
Total/NA	Prep	3050B			345245	12/10/20 11:47	JCP	TAL SEA
Total/NA	Analysis	6010D		1	345469	12/11/20 17:08	TMH	TAL SEA
Total/NA	Prep	7471A			345362	12/11/20 12:16	JCP	TAL SEA
Total/NA	Analysis	7471A		1	345462	12/11/20 17:15	FCW	TAL SEA

Client Sample ID: High Top Solar B-REC-2B

Lab Sample ID: 580-99489-2
Matrix: Solid
Date Collected: 11/30/20 00:00
Date Received: 12/03/20 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	344957	12/07/20 14:48	NRS	TAL SEA

Client Sample ID: High Top Solar B-REC-2B

Lab Sample ID: 580-99489-2
Matrix: Solid
Date Collected: 11/30/20 00:00
Percent Solids: 88.8
Date Received: 12/03/20 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			345397	12/03/20 16:35	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	345537	12/11/20 21:38	CJB	TAL SEA
Total/NA	Prep	3546			344832	12/04/20 15:42	S1S	TAL SEA
Total/NA	Analysis	8270E		1	344983	12/08/20 17:43	W1T	TAL SEA
Total/NA	Prep	5035			344970	12/07/20 16:09	JSM	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	345040	12/08/20 09:54	JSM	TAL SEA
Total/NA	Prep	3546			344824	12/04/20 13:02	S1S	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	344993	12/07/20 21:23	ADB	TAL SEA
Total/NA	Prep	3050B			345245	12/10/20 11:47	JCP	TAL SEA
Total/NA	Analysis	6010D		1	345469	12/11/20 17:11	TMH	TAL SEA
Total/NA	Prep	7471A			345362	12/11/20 12:16	JCP	TAL SEA
Total/NA	Analysis	7471A		1	345462	12/11/20 17:24	FCW	TAL SEA

Lab Chronicle

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Washington	State	C553	02-18-21

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

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids

Sample Summary

Client: Cascade Analytical Inc
Project/Site: ANS Geo Inc

Job ID: 580-99489-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-99489-1	High Top Solar B-REC-2A	Solid	11/30/20 00:00	12/03/20 15:47	
580-99489-2	High Top Solar B-REC-2B	Solid	11/30/20 00:00	12/03/20 15:47	

Seattle/Tacoma
5755 8th Street East

Tacoma, WA 98424
phone 253.922.2310 fax 253.922.5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Andy Schut	Site Contact:	12/2/2020	COC No: 1
Eurofins Cascade Analytical Inc	509-452-7707	Andy Schut	UPS	Page 1 of 1
1008 W. Ahtanum Rd Ste #2	**Analysis Turnaround Time**			Job No. 99489
Union Gap, WA 98903	Calendar (C) or Work Days (W)			
509-452-7707	TAT if different from Below			SDG No.
509-452-7773	[X] 2 weeks			
Project Name: ANS Geo Inc	[ ] 1 week			
Site:	[ ] 2 days			
PO # 16810	[ ] 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOC 8260D SIM	SVOC 8270C SIM	NWTPH Dx, Cx MTCA-5 Metals	Sample Specific Notes:
High Top Solar B-REC-2A	11/30/20	12:00		MS	4		X	X	X	20-C025478
High Top Solar B-REC-2B	11/30/20	12:15		MS	4		X	X	X	20-C025479

580-99489 Chain of Custody

Therm. ID: A2 Cor: 3.3 ° Unc: 4.2 °
Cooler Dsc: STMEU
Packing:
Cust. Seal: Yes ___ No ___
Blue Ice, Wet, Dry, None
FedEx:
UPS: Ground
Lab Cour:
Other:

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification
[ ] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [X]

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

Special Instructions/QC Requirements & Comments: No Method Substitution please. Please report lowest level possible even estimated value (J flag) down to the MDL.

	Company:	Date/Time:		Company:	Date/Time:
Relinquished by: James King	Eurofins Cascade-UG	12/2/20 16:30	Received by:	TASEA	12-3-20 1547
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:

Form No. CA-C-WI-002, dated 04/07/2011

Login Sample Receipt Checklist

Client: Cascade Analytical Inc

Job Number: 580-99489-1

Login Number: 99489
List Number: 1
Creator: Blankinship, Tom X

List Source: Eurofins TestAmerica, Seattle

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

TP-01 & TP-24

ENVIRONMENTAL RESULTS

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

(509) 662-1888
Fax: (509) 662-8183
3019 G. S. Center Road
Wenatchee, WA 98801

(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017005
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/23/20

ANS Geo Inc

4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025780
Sample Identification: High Top Solar TP-1
Sample Comment: 1'-2'

Date Received: 12/ 7/20
Date Sampled: 12/ 3/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/S				12/22/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature:

CASCADE ANALYTICAL
A EUROFINS COMPANY
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(509) 452-7707
Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017005
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/23/20

ANS Geo Inc

4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025781
Sample Identification: High Top Solar TP-24
Sample Comment: 1'-2'

Date Received: 12/ 7/20
Date Sampled: 12/ 3/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/S				12/22/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima
Signature:

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

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Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017005
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/23/20

ANS Geo Inc

4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025782
Sample Identification: High Top Solar TP-11
Sample Comment: 1'-2'

Date Received: 12/ 7/20
Date Sampled: 12/ 3/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/				12/22/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature:

CASCADE ANALYTICAL
A EUROFINS COMPANY
1-800-545-4206

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Fax: (509) 452-7773
1008 W. Ahtanum Rd.
Union Gap, WA 98903

Batch: 017005
Client: ANS Geo Inc
Account: 21800
Sampler:
PO Number:

--- Analytical Services Report ---

Report Date: 12/23/20

ANS Geo Inc

4475 S Clinton Ave #225
South Plainfield, NJ 07080

Laboratory Number: 20-C025783
Sample Identification: High Top Solar TP-4
Sample Comment: 1'-2'

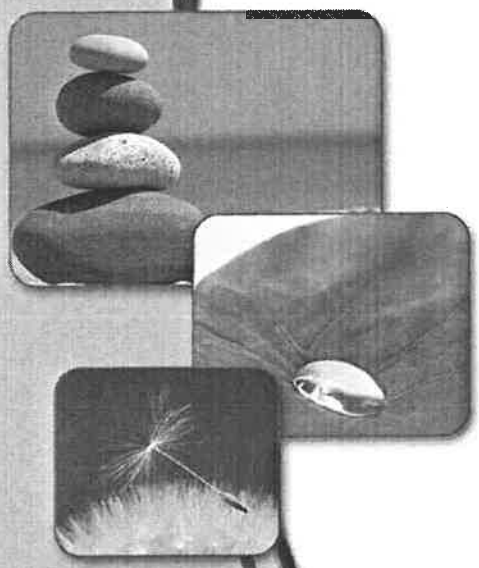
Date Received: 12/ 7/20
Date Sampled: 12/ 3/20

Test Requested	Results	Units	RL	Method	Date Analyzed	Flags
Other Analysis	Analyzed by TAL/S				12/22/20	

Approved By Name: Andy Schut
Function: Lab Manager/Yakima

Signature:

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-99593-1
Client Project/Site: ANS Geo

For:
Cascade Analytical Inc
1008 W. Ahtanum Rd.
Union Gap, Washington 98903

Attn: Andy Schut

Authorized for release by:
12/22/2020 5:13:08 PM

Pauline Matlock, Project Manager
(253)922-2310
pauline.matlock@eurofinset.com

Table of Contents

Job ID: 580-99593-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-99593-1

Comments
No additional comments.

Receipt
The samples were received on 12/8/2020 2:44 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -0.2° C.

GC/MS VOA
Method 8260D: The method blank for preparation batch 345397 and analytical batch 345537 contained Naphthalene above the Method Detection Limit (MDL), but below the Reporting Limit (RL). Data has been qualified and reported.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-345397 and analytical batch 580-345537 recovered outside control limits for the following analytes: Dichlorodifluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-345537 recovered above the upper control limit for Bromomethane, Chloroethane, Dichlorodifluoromethane, 1,1-Dichloroethene, Chloromethane and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 580-345537/3).

Method 8260D: The associated CCVIS meets control criteria; 20.1% rounds to 20%. Data is reported. (CCVIS 580-346000/3)

Method 8260D: The laboratory control sample (LCS) for preparation batch 580-346011 and analytical batch 580-346000 recovered outside acceptance limits for m-Xylene & p-Xylene (LCS 78, LCSD 77, limit 80-132). There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported. Sample is ND.

Method 8260D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-346011 and analytical batch 580-346000 recovered outside control limits for the following analytes: Methylene Chloride.

Method 8260D: The continuing calibration verification (CCV) associated with batch 580-346000 recovered outside acceptance criteria, low biased, for m-Xylene & p-Xylene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260D: Surrogate recovery for the following samples were outside control limits: 20-C025780 (580-99593-1), 20-C025781 (580-99593-2) and 20-C025782 (580-99593-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC/MS Semi VOA
Method 8270E: The method blank for preparation batch 580-345599 and analytical batch 580-345700 contained 2-Methylnaphthalene, Phenanthrene, Anthracene and 1-Methylnaphthalene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method 8270E: The method blank for preparation batch 580-345599 contained Naphthalene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 580-345599 and analytical batch 580-345700 recovered outside control limits for the following analyte(s): 2,4-Dinitrophenol and 4-Chloroaniline. These have been identified as a poor performing analytes when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for 2,4-Dinitrophenol. These results have been

Job ID: 580-99593-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

qualified and reported.

Method 8270E: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: 2,4-Dinitrophenol. This analyte may have a %D >50%.

Method 8270E: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 580-345599 and analytical batch 580-345700: Benzo[g,h,i]perylene and 2,2'-oxybis[1-chloropropane]. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270E: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-345700 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8270E: Surrogate recovery for the following sample was outside control limits: 20-C025780 (580-99593-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270E: The continuing calibration verification (CCV) associated with batch 580-345574 recovered above the upper control limit for Benzo[a]anthracene, Bis(2-ethylhexyl)phthalate, Butyl benzyl phthalate and Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: 20-C025781 (580-99593-2), 20-C025782 (580-99593-3) and (CCVIS 580-345574/3).

Method 8270E: The following continuing calibration verification (CCV) standard associated with batch 580-345574 recovered outside acceptance criteria for %D for surrogate 2,4,6-Tribromophenol. Since all the other surrogates was within %D criteria; therefore, the data have been reported. (CCVIS 580-345574/3)

Method 8270E: The continuing calibration verification (CCV) associated with batch 580-345574 recovered outside acceptance criteria, low biased, for 2,2'-oxybis[1-chloropropane]. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270E: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-345574 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

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

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

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

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

VOA Prep
Method 5035: The following samples were provided to the laboratory with a significantly different initial weight than that required by the reference method: 20-C025780 (580-99593-1), 20-C025781 (580-99593-2), 20-C025782 (580-99593-3) and 20-C025783 (580-99593-4). Deviations in the weight by more than 20% may affect reporting limits and potentially method performance. The method specifies 10g. The amount provided was below this range.

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

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

Glossary

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

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client Sample ID: 20-C025780
Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1
Matrix: Solid
Percent Solids: 94.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	2.4	0.58	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Chloromethane	ND		5.9	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Vinyl chloride	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Bromomethane	ND		1.2	0.25	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Chloroethane	ND		12	0.88	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Trichlorofluoromethane	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1-Dichloroethene	ND		5.9	1.3	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Methylene Chloride	ND		47	12	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
trans-1,2-Dichloroethene	ND		2.4	0.47	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1-Dichloroethane	ND		1.2	0.22	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
2,2-Dichloropropane	ND		5.9	0.39	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
cis-1,2-Dichloroethene	ND		3.5	0.71	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Bromochloromethane	ND		2.4	0.29	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Chloroform	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1,1-Trichloroethane	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Carbon tetrachloride	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1-Dichloropropene	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Benzene	ND		2.4	0.46	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2-Dichloroethane	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Trichloroethene	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2-Dichloropropane	ND		2.4	0.47	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Dibromomethane	ND		1.2	0.20	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Bromodichloromethane	ND		1.2	0.21	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
cis-1,3-Dichloropropene	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Toluene	ND		12	1.5	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
trans-1,3-Dichloropropene	ND		12	0.71	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1,2-Trichloroethane	ND		2.4	0.29	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Tetrachloroethene	ND		2.4	0.47	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,3-Dichloropropane	ND		2.4	0.27	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Dibromochloromethane	ND		1.8	0.32	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2-Dibromoethane	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Chlorobenzene	ND		2.4	0.29	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Ethylbenzene	ND		2.4	0.48	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1,1,2-Tetrachloroethane	ND		3.5	0.69	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,1,2,2-Tetrachloroethane	ND		4.7	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
m-Xylene & p-Xylene	ND		12	0.66	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
o-Xylene	ND		5.9	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Styrene	ND		3.5	0.87	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Bromoform	ND		5.9	0.99	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Isopropylbenzene	ND		2.4	0.54	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Bromobenzene	ND		12	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
N-Propylbenzene	ND		5.9	0.89	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2,3-Trichloropropane	ND		5.9	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
2-Chlorotoluene	ND		5.9	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,3,5-Trimethylbenzene	ND		5.9	0.95	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
4-Chlorotoluene	ND		5.9	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
t-Butylbenzene	ND		3.5	0.78	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2,4-Trimethylbenzene	ND		5.9	1.4	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
sec-Butylbenzene	ND		3.5	0.79	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1

Client Sample ID: 20-C025780
Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1
Matrix: Solid
Percent Solids: 94.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		5.9	1.3	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
4-Isopropyltoluene	ND		2.4	0.47	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,4-Dichlorobenzene	ND		5.9	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
n-Butylbenzene	ND		3.5	0.74	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2-Dichlorobenzene	ND		12	1.5	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2-Dibromo-3-Chloropropane	ND		12	1.9	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2,4-Trichlorobenzene	ND		2.4	0.49	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
1,2,3-Trichlorobenzene	ND		3.5	0.71	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Hexachlorobutadiene	ND		3.5	0.71	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Naphthalene	**41**	**B**	12	2.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1
Methyl tert-butyl ether	ND		2.4	0.35	ug/Kg	☼	12/08/20 15:00	12/11/20 22:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*120*		*80 - 120*	*12/08/20 15:00*	*12/11/20 22:03*	*1*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*	*12/08/20 15:00*	*12/11/20 22:03*	*1*
Dibromofluoromethane (Surr)	*63*	*S1-*	*80 - 120*	*12/08/20 15:00*	*12/11/20 22:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*80 - 121*	*12/08/20 15:00*	*12/11/20 22:03*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		150	23	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Bis(2-chloroethyl)ether	ND		99	7.6	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Chlorophenol	ND		200	4.0	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
1,3-Dichlorobenzene	ND		49	4.7	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
1,4-Dichlorobenzene	ND		49	8.2	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzyl alcohol	ND		990	49	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
1,2-Dichlorobenzene	ND		49	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Methylphenol	ND		150	9.7	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
3 & 4 Methylphenol	ND		200	15	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
N-Nitrosodi-n-propylamine	ND		200	22	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Hexachloroethane	ND		150	4.2	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Nitrobenzene	ND		200	20	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Isophorone	ND		150	8.3	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Nitrophenol	ND		200	6.1	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4-Dimethylphenol	ND		200	59	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzoic acid	ND		4000	1200	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4-Dichlorophenol	ND		200	59	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
1,2,4-Trichlorobenzene	ND		49	5.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Naphthalene	ND		25	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Chloroaniline	ND		1500	130	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Hexachlorobutadiene	ND		49	15	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Chloro-3-methylphenol	ND		150	33	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Methylnaphthalene	ND		49	8.7	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Hexachlorocyclopentadiene	ND		99	7.6	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4,6-Trichlorophenol	ND		150	13	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4,5-Trichlorophenol	ND		200	8.0	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Chloronaphthalene	ND		25	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2-Nitroaniline	ND		99	15	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Dimethyl phthalate	ND		150	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1

Client Sample ID: 20-C025780
Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1
Matrix: Solid
Percent Solids: 94.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		25	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,6-Dinitrotoluene	ND		150	15	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
3-Nitroaniline	ND		300	99	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Acenaphthene	ND		40	4.5	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4-Dinitrophenol	ND	*-	2000	580	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Nitrophenol	ND		2000	170	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Dibenzofuran	ND		150	5.8	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
2,4-Dinitrotoluene	ND		200	42	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Diethyl phthalate	ND		400	22	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Chlorophenyl phenyl ether	ND		200	6.2	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Fluorene	ND		25	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Nitroaniline	ND		150	49	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4,6-Dinitro-2-methylphenol	ND		990	99	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
N-Nitrosodiphenylamine	ND		59	7.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
4-Bromophenyl phenyl ether	ND		200	9.0	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Hexachlorobenzene	ND		49	15	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Pentachlorophenol	ND		400	62	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Phenanthrene	ND		59	5.7	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Anthracene	ND		59	16	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Di-n-butyl phthalate	ND		490	27	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Fluoranthene	ND		40	12	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Pyrene	ND		59	13	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Butyl benzyl phthalate	ND		200	50	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
3,3'-Dichlorobenzidine	ND		400	83	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzo[a]anthracene	ND		40	11	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Chrysene	ND		59	13	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Bis(2-ethylhexyl) phthalate	ND		590	70	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Di-n-octyl phthalate	ND		150	12	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzo[a]pyrene	ND		59	13	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Indeno[1,2,3-cd]pyrene	ND		40	12	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Dibenz(a,h)anthracene	ND		49	12	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzo[g,h,i]perylene	ND		59	18	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Carbazole	ND		150	7.2	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
1-Methylnaphthalene	ND		30	4.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzo[b]fluoranthene	ND		40	9.9	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
Benzo[k]fluoranthene	ND		59	14	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1
bis(chloroisopropyl) ether	ND	*-	200	6.0	ug/Kg	☼	12/11/20 15:17	12/15/20 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*66*		*47 - 119*	*12/11/20 15:17*	*12/15/20 18:39*	*1*
Phenol-d5 (Surr)	*53*	*S1-*	*59 - 120*	*12/11/20 15:17*	*12/15/20 18:39*	*1*
Nitrobenzene-d5 (Surr)	*75*		*54 - 120*	*12/11/20 15:17*	*12/15/20 18:39*	*1*
2-Fluorobiphenyl	*68*		*57 - 120*	*12/11/20 15:17*	*12/15/20 18:39*	*1*
2,4,6-Tribromophenol (Surr)	*73*		*52 - 115*	*12/11/20 15:17*	*12/15/20 18:39*	*1*
Terphenyl-d14 (Surr)	*85*		*73 - 125*	*12/11/20 15:17*	*12/15/20 18:39*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		13	6.0	mg/Kg	☼	12/10/20 09:15	12/10/20 12:30	1

Client Sample ID: 20-C025780

Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1

Matrix: Solid
Percent Solids: 94.8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*	*12/10/20 09:15*	*12/10/20 12:30*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		49	12	mg/Kg	☼	12/21/20 08:35	12/21/20 22:14	1
Motor Oil (>C24-C36)	**29**	**J**	49	17	mg/Kg	☼	12/21/20 08:35	12/21/20 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*12/21/20 08:35*	*12/21/20 22:14*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**9.0**		0.39	0.037	mg/Kg	☼	12/17/20 12:22	12/18/20 12:11	10
Cadmium	**0.11**	**J**	0.62	0.059	mg/Kg	☼	12/17/20 12:22	12/18/20 12:11	10
Arsenic	**6.2**		0.39	0.077	mg/Kg	☼	12/17/20 12:22	12/18/20 12:11	10
Chromium	**26**		0.77	0.049	mg/Kg	☼	12/17/20 12:22	12/18/20 12:11	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.022	0.0065	mg/Kg	☼	12/14/20 13:46	12/15/20 11:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**94.8**		0.1	0.1	%			12/09/20 15:39	1
Percent Moisture	**5.2**		0.1	0.1	%			12/09/20 15:39	1

Client Sample ID: 20-C025781
Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid
Percent Solids: 93.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	*+	2.4	0.59	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Chloromethane	ND		6.0	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Vinyl chloride	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Bromomethane	ND		1.2	0.25	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Chloroethane	ND		12	0.90	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Trichlorofluoromethane	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1-Dichloroethene	ND		6.0	1.3	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Methylene Chloride	ND		48	12	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
trans-1,2-Dichloroethene	ND		2.4	0.48	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1-Dichloroethane	ND		1.2	0.23	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
2,2-Dichloropropane	ND		6.0	0.40	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
cis-1,2-Dichloroethene	ND		3.6	0.72	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Bromochloromethane	ND		2.4	0.30	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Chloroform	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1,1-Trichloroethane	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Carbon tetrachloride	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1-Dichloropropene	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Benzene	ND		2.4	0.47	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2-Dichloroethane	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Trichloroethene	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2-Dichloropropane	ND		2.4	0.48	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Dibromomethane	ND		1.2	0.20	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Bromodichloromethane	ND		1.2	0.22	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
cis-1,3-Dichloropropene	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Toluene	ND		12	1.6	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
trans-1,3-Dichloropropene	ND		12	0.72	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1,2-Trichloroethane	ND		2.4	0.30	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Tetrachloroethene	ND		2.4	0.48	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,3-Dichloropropane	ND		2.4	0.28	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Dibromochloromethane	ND		1.8	0.32	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2-Dibromoethane	ND		1.2	0.24	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Chlorobenzene	ND		2.4	0.30	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Ethylbenzene	ND		2.4	0.49	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1,1,2-Tetrachloroethane	ND		3.6	0.71	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,1,2,2-Tetrachloroethane	ND		4.8	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
m-Xylene & p-Xylene	ND		12	0.67	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
o-Xylene	ND		6.0	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Styrene	ND		3.6	0.89	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Bromoform	ND		6.0	1.0	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Isopropylbenzene	ND		2.4	0.55	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Bromobenzene	ND		12	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
N-Propylbenzene	ND		6.0	0.91	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2,3-Trichloropropane	ND		6.0	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
2-Chlorotoluene	ND		6.0	1.1	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,3,5-Trimethylbenzene	ND		6.0	0.97	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
4-Chlorotoluene	ND		6.0	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
t-Butylbenzene	ND		3.6	0.79	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2,4-Trimethylbenzene	ND		6.0	1.4	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
sec-Butylbenzene	ND		3.6	0.81	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1

Client Sample ID: 20-C025781
Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid
Percent Solids: 93.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		6.0	1.3	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
4-Isopropyltoluene	ND		2.4	0.48	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,4-Dichlorobenzene	ND		6.0	1.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
n-Butylbenzene	ND		3.6	0.76	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2-Dichlorobenzene	ND		12	1.6	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2-Dibromo-3-Chloropropane	ND		12	1.9	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2,4-Trichlorobenzene	ND		2.4	0.50	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
1,2,3-Trichlorobenzene	ND		3.6	0.72	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Hexachlorobutadiene	ND		3.6	0.72	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Naphthalene	**9.1**	**J B**	12	2.2	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1
Methyl tert-butyl ether	ND		2.4	0.36	ug/Kg	☼	12/08/20 15:00	12/11/20 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*128*	*S1+*	*80 - 120*	*12/08/20 15:00*	*12/11/20 22:29*	*1*
4-Bromofluorobenzene (Surr)	*71*	*S1-*	*80 - 120*	*12/08/20 15:00*	*12/11/20 22:29*	*1*
Dibromofluoromethane (Surr)	*73*	*S1-*	*80 - 120*	*12/08/20 15:00*	*12/11/20 22:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*52*	*S1-*	*80 - 121*	*12/08/20 15:00*	*12/11/20 22:29*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		160	24	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Bis(2-chloroethyl)ether	ND		110	8.1	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Chlorophenol	ND		210	4.2	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
1,3-Dichlorobenzene	ND		53	5.0	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
1,4-Dichlorobenzene	ND		53	8.7	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzyl alcohol	ND		1100	53	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
1,2-Dichlorobenzene	ND		53	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Methylphenol	ND		160	10	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
3 & 4 Methylphenol	ND		210	16	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
N-Nitrosodi-n-propylamine	ND		210	23	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Hexachloroethane	ND		160	4.5	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Nitrobenzene	ND		210	21	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Isophorone	ND		160	8.8	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Nitrophenol	ND		210	6.5	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4-Dimethylphenol	ND		210	63	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzoic acid	ND		4200	1300	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Bis(2-chloroethoxy)methane	ND		210	19	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4-Dichlorophenol	ND		210	63	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
1,2,4-Trichlorobenzene	ND		53	6.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Naphthalene	ND		26	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Chloroaniline	ND		1600	140	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Hexachlorobutadiene	ND		53	16	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Chloro-3-methylphenol	ND		160	35	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Methylnaphthalene	ND		53	9.2	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Hexachlorocyclopentadiene	ND		110	8.1	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4,6-Trichlorophenol	ND		160	14	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4,5-Trichlorophenol	ND		210	8.5	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Chloronaphthalene	ND		26	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2-Nitroaniline	ND		110	16	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Dimethyl phthalate	ND		160	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1

Client Sample ID: 20-C025781
Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid
Percent Solids: 93.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		26	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,6-Dinitrotoluene	ND		160	16	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
3-Nitroaniline	ND		320	110	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Acenaphthene	ND		42	4.8	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4-Dinitrophenol	ND	*-	2100	610	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Nitrophenol	ND		2100	180	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Dibenzofuran	ND		160	6.2	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
2,4-Dinitrotoluene	ND		210	45	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Diethyl phthalate	ND		420	23	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Chlorophenyl phenyl ether	ND		210	6.6	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Fluorene	ND		26	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Nitroaniline	ND		160	53	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4,6-Dinitro-2-methylphenol	ND		1100	110	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
N-Nitrosodiphenylamine	ND		63	8.4	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
4-Bromophenyl phenyl ether	ND		210	9.6	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Hexachlorobenzene	ND		53	16	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Pentachlorophenol	ND		420	66	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Phenanthrene	ND		63	6.1	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Anthracene	ND		63	17	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Di-n-butyl phthalate	ND		530	28	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Fluoranthene	ND		42	13	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Pyrene	ND		63	14	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Butyl benzyl phthalate	ND		210	54	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
3,3'-Dichlorobenzidine	ND		420	88	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzo[a]anthracene	ND		42	12	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Chrysene	ND		63	14	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Bis(2-ethylhexyl) phthalate	ND		630	75	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Di-n-octyl phthalate	ND		160	13	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzo[a]pyrene	ND		63	14	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Indeno[1,2,3-cd]pyrene	ND		42	13	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Dibenz(a,h)anthracene	ND		53	13	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzo[g,h,i]perylene	ND		63	19	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Carbazole	ND		160	7.7	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
1-Methylnaphthalene	ND		32	5.3	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzo[b]fluoranthene	ND		42	11	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
Benzo[k]fluoranthene	ND		63	15	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1
bis(chloroisopropyl) ether	ND	*-	210	6.4	ug/Kg	☼	12/11/20 15:17	12/15/20 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*96*		*47 - 119*	*12/11/20 15:17*	*12/15/20 19:02*	*1*
Phenol-d5 (Surr)	*81*		*59 - 120*	*12/11/20 15:17*	*12/15/20 19:02*	*1*
Nitrobenzene-d5 (Surr)	*100*		*54 - 120*	*12/11/20 15:17*	*12/15/20 19:02*	*1*
2-Fluorobiphenyl	*90*		*57 - 120*	*12/11/20 15:17*	*12/15/20 19:02*	*1*
2,4,6-Tribromophenol (Surr)	*107*		*52 - 115*	*12/11/20 15:17*	*12/15/20 19:02*	*1*
Terphenyl-d14 (Surr)	*119*		*73 - 125*	*12/11/20 15:17*	*12/15/20 19:02*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		14	6.4	mg/Kg	☼	12/10/20 09:15	12/10/20 12:54	1

Client Sample ID: 20-C025781
Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid
Percent Solids: 93.9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*	*12/10/20 09:15*	*12/10/20 12:54*	*1*

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		52	13	mg/Kg	☼	12/21/20 08:35	12/21/20 22:54	1
Motor Oil (>C24-C36)	**33**	**J**	52	18	mg/Kg	☼	12/21/20 08:35	12/21/20 22:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*12/21/20 08:35*	*12/21/20 22:54*	*1*

Method: 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**8.4**		0.44	0.042	mg/Kg	☼	12/17/20 12:22	12/18/20 17:00	10
Cadmium	**0.14**	**J**	0.70	0.067	mg/Kg	☼	12/17/20 12:22	12/18/20 17:00	10
Arsenic	**4.8**		0.44	0.087	mg/Kg	☼	12/17/20 12:22	12/18/20 17:00	10
Chromium	**18**		0.87	0.055	mg/Kg	☼	12/17/20 12:22	12/18/20 17:00	10

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**	**J**	0.025	0.0076	mg/Kg	☼	12/14/20 13:46	12/15/20 12:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**93.9**		0.1	0.1	%			12/09/20 15:39	1
Percent Moisture	**6.1**		0.1	0.1	%			12/09/20 15:39	1

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

Lab Sample ID: MB 580-345397/1-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0	0.49	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloromethane	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Vinyl chloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromomethane	ND		1.0	0.21	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroethane	ND		10	0.75	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichlorofluoromethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethene	ND		5.0	1.1	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Methylene Chloride	ND		40	9.9	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,2-Dichloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloroethane	ND		1.0	0.19	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2,2-Dichloropropane	ND		5.0	0.33	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,2-Dichloroethene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromochloromethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chloroform	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1-Trichloroethane	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Carbon tetrachloride	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1-Dichloropropene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Benzene	ND		2.0	0.39	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Trichloroethene	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloropropane	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromomethane	ND		1.0	0.17	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromodichloromethane	ND		1.0	0.18	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Toluene	ND		10	1.3	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
trans-1,3-Dichloropropene	ND		10	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Tetrachloroethene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3-Dichloropropane	ND		2.0	0.23	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Dibromochloromethane	ND		1.5	0.27	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Chlorobenzene	ND		2.0	0.25	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,1,2-Tetrachloroethane	ND		3.0	0.59	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.90	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
m-Xylene & p-Xylene	ND		10	0.56	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
o-Xylene	ND		5.0	0.92	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Styrene	ND		3.0	0.74	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromoform	ND		5.0	0.84	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Isopropylbenzene	ND		2.0	0.46	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Bromobenzene	ND		10	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
N-Propylbenzene	ND		5.0	0.76	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,3-Trichloropropane	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
2-Chlorotoluene	ND		5.0	0.93	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3,5-Trimethylbenzene	ND		5.0	0.81	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
t-Butylbenzene	ND		3.0	0.66	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,4-Trimethylbenzene	ND		5.0	1.2	ug/Kg		12/11/20 16:40	12/11/20 20:46	1

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

Lab Sample ID: MB 580-345397/1-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345397

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		3.0	0.67	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,3-Dichlorobenzene	ND		5.0	1.1	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
4-Isopropyltoluene	ND		2.0	0.40	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,4-Dichlorobenzene	ND		5.0	0.98	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
n-Butylbenzene	ND		3.0	0.63	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dichlorobenzene	ND		10	1.3	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2-Dibromo-3-Chloropropane	ND		10	1.6	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,4-Trichlorobenzene	ND		2.0	0.42	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
1,2,3-Trichlorobenzene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Hexachlorobutadiene	ND		3.0	0.60	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Naphthalene	1.85	J	10	1.8	ug/Kg		12/11/20 16:40	12/11/20 20:46	1
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		12/11/20 16:40	12/11/20 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	88		80 - 120	12/11/20 16:40	12/11/20 20:46	1
4-Bromofluorobenzene (Surr)	96		80 - 120	12/11/20 16:40	12/11/20 20:46	1
Dibromofluoromethane (Surr)	103		80 - 120	12/11/20 16:40	12/11/20 20:46	1
1,2-Dichloroethane-d4 (Surr)	111		80 - 121	12/11/20 16:40	12/11/20 20:46	1

Lab Sample ID: LCS 580-345397/2-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	20.0	35.0	*+	ug/Kg		175	24 - 150
Chloromethane	20.0	27.8		ug/Kg		139	52 - 150
Vinyl chloride	20.0	24.3		ug/Kg		122	54 - 150
Bromomethane	20.0	26.6		ug/Kg		133	42 - 150
Chloroethane	20.0	24.0		ug/Kg		120	50 - 150
Trichlorofluoromethane	20.0	22.8		ug/Kg		114	71 - 150
1,1-Dichloroethene	20.0	25.4		ug/Kg		127	73 - 143
Methylene Chloride	20.0	22.9	J	ug/Kg		114	66 - 140
trans-1,2-Dichloroethene	20.0	21.6		ug/Kg		108	77 - 134
1,1-Dichloroethane	20.0	21.9		ug/Kg		110	78 - 135
2,2-Dichloropropane	20.0	22.0		ug/Kg		110	62 - 150
cis-1,2-Dichloroethene	20.0	22.2		ug/Kg		111	68 - 132
Bromochloromethane	20.0	23.0		ug/Kg		115	76 - 131
Chloroform	20.0	20.7		ug/Kg		103	74 - 133
1,1,1-Trichloroethane	20.0	21.3		ug/Kg		106	78 - 144
Carbon tetrachloride	20.0	22.4		ug/Kg		112	66 - 150
1,1-Dichloropropene	20.0	20.9		ug/Kg		104	76 - 140
Benzene	20.0	21.8		ug/Kg		109	79 - 135
1,2-Dichloroethane	20.0	22.4		ug/Kg		112	76 - 132
Trichloroethene	20.0	21.7		ug/Kg		109	80 - 134
1,2-Dichloropropane	20.0	22.0		ug/Kg		110	65 - 136
Dibromomethane	20.0	23.5		ug/Kg		118	72 - 130
Bromodichloromethane	20.0	20.3		ug/Kg		102	73 - 125
cis-1,3-Dichloropropene	20.0	18.5		ug/Kg		93	80 - 122

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

Lab Sample ID: LCS 580-345397/2-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	20.0	18.2		ug/Kg		91	75 - 137
trans-1,3-Dichloropropene	20.0	18.3		ug/Kg		91	80 - 121
1,1,2-Trichloroethane	20.0	20.1		ug/Kg		101	80 - 123
Tetrachloroethene	20.0	17.3		ug/Kg		87	58 - 150
1,3-Dichloropropane	20.0	19.3		ug/Kg		96	75 - 120
Dibromochloromethane	20.0	18.8		ug/Kg		94	75 - 132
1,2-Dibromoethane	20.0	20.6		ug/Kg		103	77 - 123
Chlorobenzene	20.0	18.3		ug/Kg		91	80 - 131
Ethylbenzene	20.0	19.6		ug/Kg		98	80 - 135
1,1,1,2-Tetrachloroethane	20.0	18.4		ug/Kg		92	79 - 128
1,1,2,2-Tetrachloroethane	20.0	19.3		ug/Kg		97	77 - 127
m-Xylene & p-Xylene	20.0	17.1		ug/Kg		86	80 - 132
o-Xylene	20.0	19.1		ug/Kg		95	80 - 132
Styrene	20.0	18.4		ug/Kg		92	79 - 129
Bromoform	20.0	19.0		ug/Kg		95	71 - 146
Isopropylbenzene	20.0	18.9		ug/Kg		94	81 - 140
Bromobenzene	20.0	19.2		ug/Kg		96	78 - 126
N-Propylbenzene	20.0	17.8		ug/Kg		89	68 - 149
1,2,3-Trichloropropane	20.0	19.7		ug/Kg		98	77 - 127
2-Chlorotoluene	20.0	16.6		ug/Kg		83	77 - 134
1,3,5-Trimethylbenzene	20.0	17.8		ug/Kg		89	72 - 142
4-Chlorotoluene	20.0	16.8		ug/Kg		84	71 - 137
t-Butylbenzene	20.0	17.4		ug/Kg		87	72 - 144
1,2,4-Trimethylbenzene	20.0	17.8		ug/Kg		89	73 - 138
sec-Butylbenzene	20.0	18.0		ug/Kg		90	71 - 143
1,3-Dichlorobenzene	20.0	18.3		ug/Kg		91	78 - 132
4-Isopropyltoluene	20.0	17.8		ug/Kg		89	71 - 142
1,4-Dichlorobenzene	20.0	18.4		ug/Kg		92	77 - 123
n-Butylbenzene	20.0	16.8		ug/Kg		84	69 - 143
1,2-Dichlorobenzene	20.0	18.5		ug/Kg		93	78 - 126
1,2-Dibromo-3-Chloropropane	20.0	20.1		ug/Kg		100	75 - 129
1,2,4-Trichlorobenzene	20.0	20.0		ug/Kg		100	74 - 131
1,2,3-Trichlorobenzene	20.0	19.5		ug/Kg		97	68 - 136
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150
Naphthalene	20.0	21.5		ug/Kg		107	64 - 136
Methyl tert-butyl ether	20.0	24.0		ug/Kg		120	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*93*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*80 - 121*

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

Lab Sample ID: LCSD 580-345397/3-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	20.0	42.0	*+	ug/Kg		210	24 - 150	18	40
Chloromethane	20.0	28.9		ug/Kg		144	52 - 150	4	26
Vinyl chloride	20.0	27.8		ug/Kg		139	54 - 150	13	40
Bromomethane	20.0	27.0		ug/Kg		135	42 - 150	2	40
Chloroethane	20.0	25.4		ug/Kg		127	50 - 150	6	31
Trichlorofluoromethane	20.0	23.4		ug/Kg		117	71 - 150	3	36
1,1-Dichloroethene	20.0	25.8		ug/Kg		129	73 - 143	2	34
Methylene Chloride	20.0	24.7	J	ug/Kg		124	66 - 140	8	30
trans-1,2-Dichloroethene	20.0	21.2		ug/Kg		106	77 - 134	2	33
1,1-Dichloroethane	20.0	22.3		ug/Kg		112	78 - 135	2	31
2,2-Dichloropropane	20.0	22.7		ug/Kg		113	62 - 150	3	40
cis-1,2-Dichloroethene	20.0	22.2		ug/Kg		111	68 - 132	0	32
Bromochloromethane	20.0	23.6		ug/Kg		118	76 - 131	3	28
Chloroform	20.0	21.0		ug/Kg		105	74 - 133	1	36
1,1,1-Trichloroethane	20.0	21.9		ug/Kg		109	78 - 144	3	38
Carbon tetrachloride	20.0	22.7		ug/Kg		114	66 - 150	1	39
1,1-Dichloropropene	20.0	21.3		ug/Kg		106	76 - 140	2	38
Benzene	20.0	22.8		ug/Kg		114	79 - 135	4	31
1,2-Dichloroethane	20.0	23.2		ug/Kg		116	76 - 132	4	29
Trichloroethene	20.0	21.7		ug/Kg		108	80 - 134	0	40
1,2-Dichloropropane	20.0	23.4		ug/Kg		117	65 - 136	6	37
Dibromomethane	20.0	23.8		ug/Kg		119	72 - 130	1	34
Bromodichloromethane	20.0	20.8		ug/Kg		104	73 - 125	2	40
cis-1,3-Dichloropropene	20.0	19.1		ug/Kg		96	80 - 122	3	40
Toluene	20.0	19.0		ug/Kg		95	75 - 137	4	34
trans-1,3-Dichloropropene	20.0	19.0		ug/Kg		95	80 - 121	4	40
1,1,2-Trichloroethane	20.0	20.2		ug/Kg		101	80 - 123	1	39
Tetrachloroethene	20.0	17.5		ug/Kg		87	58 - 150	1	40
1,3-Dichloropropane	20.0	20.1		ug/Kg		101	75 - 120	4	37
Dibromochloromethane	20.0	19.1		ug/Kg		96	75 - 132	2	40
1,2-Dibromoethane	20.0	21.5		ug/Kg		107	77 - 123	4	37
Chlorobenzene	20.0	19.0		ug/Kg		95	80 - 131	4	40
Ethylbenzene	20.0	20.5		ug/Kg		103	80 - 135	5	37
1,1,1,2-Tetrachloroethane	20.0	18.9		ug/Kg		95	79 - 128	3	40
1,1,2,2-Tetrachloroethane	20.0	19.5		ug/Kg		97	77 - 127	1	40
m-Xylene & p-Xylene	20.0	17.6		ug/Kg		88	80 - 132	3	38
o-Xylene	20.0	20.0		ug/Kg		100	80 - 132	5	39
Styrene	20.0	19.0		ug/Kg		95	79 - 129	3	40
Bromoform	20.0	18.4		ug/Kg		92	71 - 146	3	40
Isopropylbenzene	20.0	19.2		ug/Kg		96	81 - 140	2	40
Bromobenzene	20.0	19.6		ug/Kg		98	78 - 126	2	40
N-Propylbenzene	20.0	18.6		ug/Kg		93	68 - 149	4	40
1,2,3-Trichloropropane	20.0	19.0		ug/Kg		95	77 - 127	3	40
2-Chlorotoluene	20.0	17.8		ug/Kg		89	77 - 134	7	40
1,3,5-Trimethylbenzene	20.0	18.4		ug/Kg		92	72 - 142	3	40
4-Chlorotoluene	20.0	17.3		ug/Kg		87	71 - 137	3	40
t-Butylbenzene	20.0	18.0		ug/Kg		90	72 - 144	3	40
1,2,4-Trimethylbenzene	20.0	18.7		ug/Kg		94	73 - 138	5	40

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

Lab Sample ID: LCSD 580-345397/3-A
Matrix: Solid
Analysis Batch: 345537

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345397

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	20.0	18.5		ug/Kg		93	71 - 143	3	40
1,3-Dichlorobenzene	20.0	19.2		ug/Kg		96	78 - 132	5	40
4-Isopropyltoluene	20.0	18.6		ug/Kg		93	71 - 142	5	40
1,4-Dichlorobenzene	20.0	19.3		ug/Kg		96	77 - 123	4	40
n-Butylbenzene	20.0	17.7		ug/Kg		88	69 - 143	6	40
1,2-Dichlorobenzene	20.0	19.4		ug/Kg		97	78 - 126	4	40
1,2-Dibromo-3-Chloropropane	20.0	19.0		ug/Kg		95	75 - 129	5	40
1,2,4-Trichlorobenzene	20.0	20.4		ug/Kg		102	74 - 131	2	40
1,2,3-Trichlorobenzene	20.0	19.3		ug/Kg		97	68 - 136	1	40
Hexachlorobutadiene	20.0	18.6		ug/Kg		93	65 - 150	0	36
Naphthalene	20.0	20.8		ug/Kg		104	64 - 136	3	40
Methyl tert-butyl ether	20.0	25.0		ug/Kg		125	77 - 132	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*91*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*109*		*80 - 121*

Lab Sample ID: MB 580-346011/1-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346011

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		2.0	0.49	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Chloromethane	ND		5.0	0.93	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Vinyl chloride	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Bromomethane	ND		1.0	0.21	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Chloroethane	ND		10	0.75	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Trichlorofluoromethane	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1-Dichloroethene	ND		5.0	1.1	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Methylene Chloride	ND		40	9.9	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
trans-1,2-Dichloroethene	ND		2.0	0.40	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1-Dichloroethane	ND		1.0	0.19	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
2,2-Dichloropropane	ND		5.0	0.33	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
cis-1,2-Dichloroethene	ND		3.0	0.60	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Bromochloromethane	ND		2.0	0.25	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Chloroform	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1,1-Trichloroethane	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Carbon tetrachloride	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1-Dichloropropene	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Benzene	ND		2.0	0.39	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2-Dichloroethane	ND		1.0	0.20	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Trichloroethene	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2-Dichloropropane	ND		2.0	0.40	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Dibromomethane	ND		1.0	0.17	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Bromodichloromethane	ND		1.0	0.18	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/Kg		12/19/20 15:29	12/19/20 16:47	1

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

Lab Sample ID: MB 580-346011/1-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346011

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		10	1.3	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
trans-1,3-Dichloropropene	ND		10	0.60	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Tetrachloroethene	ND		2.0	0.40	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,3-Dichloropropane	ND		2.0	0.23	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Dibromochloromethane	ND		1.5	0.27	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2-Dibromoethane	ND		1.0	0.20	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Chlorobenzene	ND		2.0	0.25	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Ethylbenzene	ND		2.0	0.41	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1,1,2-Tetrachloroethane	ND		3.0	0.59	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,1,2,2-Tetrachloroethane	ND		4.0	0.90	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
m-Xylene & p-Xylene	ND		10	0.56	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
o-Xylene	ND		5.0	0.92	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Styrene	ND		3.0	0.74	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Bromoform	ND		5.0	0.84	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Isopropylbenzene	ND		2.0	0.46	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Bromobenzene	ND		10	1.0	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
N-Propylbenzene	ND		5.0	0.76	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2,3-Trichloropropane	ND		5.0	1.0	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
2-Chlorotoluene	ND		5.0	0.93	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,3,5-Trimethylbenzene	ND		5.0	0.81	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
t-Butylbenzene	ND		3.0	0.66	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2,4-Trimethylbenzene	ND		5.0	1.2	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
sec-Butylbenzene	ND		3.0	0.67	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,3-Dichlorobenzene	ND		5.0	1.1	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
4-Isopropyltoluene	ND		2.0	0.40	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,4-Dichlorobenzene	ND		5.0	0.98	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
n-Butylbenzene	ND		3.0	0.63	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2-Dichlorobenzene	ND		10	1.3	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2-Dibromo-3-Chloropropane	ND		10	1.6	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2,4-Trichlorobenzene	ND		2.0	0.42	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
1,2,3-Trichlorobenzene	ND		3.0	0.60	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Hexachlorobutadiene	ND		3.0	0.60	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Naphthalene	ND		10	1.8	ug/Kg		12/19/20 15:29	12/19/20 16:47	1
Methyl tert-butyl ether	ND		2.0	0.30	ug/Kg		12/19/20 15:29	12/19/20 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*80 - 120*	*12/19/20 15:29*	*12/19/20 16:47*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*	*12/19/20 15:29*	*12/19/20 16:47*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*12/19/20 15:29*	*12/19/20 16:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 121*	*12/19/20 15:29*	*12/19/20 16:47*	*1*

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

Lab Sample ID: LCS 580-346011/2-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	20.0	25.3		ug/Kg		127	24 - 150
Chloromethane	20.0	23.6		ug/Kg		118	52 - 150
Vinyl chloride	20.0	21.0		ug/Kg		105	54 - 150
Bromomethane	20.0	20.1		ug/Kg		101	42 - 150
Chloroethane	20.0	24.0		ug/Kg		120	50 - 150
Trichlorofluoromethane	20.0	21.4		ug/Kg		107	71 - 150
1,1-Dichloroethene	20.0	23.0		ug/Kg		115	73 - 143
Methylene Chloride	20.0	14.9	J	ug/Kg		75	66 - 140
trans-1,2-Dichloroethene	20.0	19.1		ug/Kg		95	77 - 134
1,1-Dichloroethane	20.0	20.5		ug/Kg		103	78 - 135
2,2-Dichloropropane	20.0	20.1		ug/Kg		101	62 - 150
cis-1,2-Dichloroethene	20.0	20.0		ug/Kg		100	68 - 132
Bromochloromethane	20.0	20.8		ug/Kg		104	76 - 131
Chloroform	20.0	18.5		ug/Kg		93	74 - 133
1,1,1-Trichloroethane	20.0	20.0		ug/Kg		100	78 - 144
Carbon tetrachloride	20.0	21.3		ug/Kg		106	66 - 150
1,1-Dichloropropene	20.0	20.3		ug/Kg		102	76 - 140
Benzene	20.0	20.1		ug/Kg		100	79 - 135
1,2-Dichloroethane	20.0	19.4		ug/Kg		97	76 - 132
Trichloroethene	20.0	19.9		ug/Kg		99	80 - 134
1,2-Dichloropropane	20.0	19.9		ug/Kg		100	65 - 136
Dibromomethane	20.0	20.5		ug/Kg		103	72 - 130
Bromodichloromethane	20.0	18.3		ug/Kg		91	73 - 125
cis-1,3-Dichloropropene	20.0	16.3		ug/Kg		82	80 - 122
Toluene	20.0	17.3		ug/Kg		87	75 - 137
trans-1,3-Dichloropropene	20.0	16.5		ug/Kg		82	80 - 121
1,1,2-Trichloroethane	20.0	16.9		ug/Kg		84	80 - 123
Tetrachloroethene	20.0	16.8		ug/Kg		84	58 - 150
1,3-Dichloropropane	20.0	17.1		ug/Kg		86	75 - 120
Dibromochloromethane	20.0	16.4		ug/Kg		82	75 - 132
1,2-Dibromoethane	20.0	18.1		ug/Kg		91	77 - 123
Chlorobenzene	20.0	16.7		ug/Kg		84	80 - 131
Ethylbenzene	20.0	17.7		ug/Kg		88	80 - 135
1,1,1,2-Tetrachloroethane	20.0	16.4		ug/Kg		82	79 - 128
1,1,2,2-Tetrachloroethane	20.0	16.3		ug/Kg		81	77 - 127
m-Xylene & p-Xylene	20.0	15.6	*-	ug/Kg		78	80 - 132
o-Xylene	20.0	17.4		ug/Kg		87	80 - 132
Styrene	20.0	16.6		ug/Kg		83	79 - 129
Bromoform	20.0	15.5		ug/Kg		78	71 - 146
Isopropylbenzene	20.0	16.9		ug/Kg		85	81 - 140
Bromobenzene	20.0	16.3		ug/Kg		81	78 - 126
N-Propylbenzene	20.0	16.0		ug/Kg		80	68 - 149
1,2,3-Trichloropropane	20.0	16.1		ug/Kg		80	77 - 127
2-Chlorotoluene	20.0	15.3		ug/Kg		77	77 - 134
1,3,5-Trimethylbenzene	20.0	15.7		ug/Kg		78	72 - 142
4-Chlorotoluene	20.0	15.3		ug/Kg		77	71 - 137
t-Butylbenzene	20.0	15.4		ug/Kg		77	72 - 144
1,2,4-Trimethylbenzene	20.0	16.0		ug/Kg		80	73 - 138

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

Lab Sample ID: LCS 580-346011/2-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
sec-Butylbenzene	20.0	15.6		ug/Kg		78	71 - 143
1,3-Dichlorobenzene	20.0	16.1		ug/Kg		81	78 - 132
4-Isopropyltoluene	20.0	15.4		ug/Kg		77	71 - 142
1,4-Dichlorobenzene	20.0	15.8		ug/Kg		79	77 - 123
n-Butylbenzene	20.0	14.4		ug/Kg		72	69 - 143
1,2-Dichlorobenzene	20.0	16.2		ug/Kg		81	78 - 126
1,2-Dibromo-3-Chloropropane	20.0	15.8		ug/Kg		79	75 - 129
1,2,4-Trichlorobenzene	20.0	16.9		ug/Kg		85	74 - 131
1,2,3-Trichlorobenzene	20.0	16.6		ug/Kg		83	68 - 136
Hexachlorobutadiene	20.0	14.5		ug/Kg		73	65 - 150
Naphthalene	20.0	18.1		ug/Kg		90	64 - 136
Methyl tert-butyl ether	20.0	21.0		ug/Kg		105	77 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*88*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 121*

Lab Sample ID: LCSD 580-346011/3-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 346011

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane	20.0	24.5		ug/Kg		122	24 - 150	4	40
Chloromethane	20.0	24.7		ug/Kg		123	52 - 150	5	26
Vinyl chloride	20.0	24.3		ug/Kg		121	54 - 150	15	40
Bromomethane	20.0	22.0		ug/Kg		110	42 - 150	9	40
Chloroethane	20.0	21.5		ug/Kg		107	50 - 150	11	31
Trichlorofluoromethane	20.0	19.5		ug/Kg		97	71 - 150	10	36
1,1-Dichloroethene	20.0	22.2		ug/Kg		111	73 - 143	4	34
Methylene Chloride	20.0	21.3	J *1	ug/Kg		106	66 - 140	35	30
trans-1,2-Dichloroethene	20.0	19.5		ug/Kg		98	77 - 134	2	33
1,1-Dichloroethane	20.0	21.2		ug/Kg		106	78 - 135	3	31
2,2-Dichloropropane	20.0	20.7		ug/Kg		104	62 - 150	3	40
cis-1,2-Dichloroethene	20.0	20.8		ug/Kg		104	68 - 132	4	32
Bromochloromethane	20.0	21.2		ug/Kg		106	76 - 131	2	28
Chloroform	20.0	19.4		ug/Kg		97	74 - 133	5	36
1,1,1-Trichloroethane	20.0	20.1		ug/Kg		101	78 - 144	1	38
Carbon tetrachloride	20.0	21.7		ug/Kg		109	66 - 150	2	39
1,1-Dichloropropene	20.0	20.1		ug/Kg		101	76 - 140	1	38
Benzene	20.0	20.5		ug/Kg		102	79 - 135	2	31
1,2-Dichloroethane	20.0	20.3		ug/Kg		101	76 - 132	5	29
Trichloroethene	20.0	19.5		ug/Kg		97	80 - 134	2	40
1,2-Dichloropropane	20.0	20.8		ug/Kg		104	65 - 136	4	37
Dibromomethane	20.0	21.1		ug/Kg		106	72 - 130	3	34
Bromodichloromethane	20.0	18.6		ug/Kg		93	73 - 125	2	40
cis-1,3-Dichloropropene	20.0	16.2		ug/Kg		81	80 - 122	1	40

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

Lab Sample ID: LCSD 580-346011/3-A
Matrix: Solid
Analysis Batch: 346000

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 346011

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	20.0	16.7		ug/Kg		83	75 - 137	4	34
trans-1,3-Dichloropropene	20.0	16.4		ug/Kg		82	80 - 121	0	40
1,1,2-Trichloroethane	20.0	17.3		ug/Kg		86	80 - 123	2	39
Tetrachloroethene	20.0	15.4		ug/Kg		77	58 - 150	8	40
1,3-Dichloropropane	20.0	17.7		ug/Kg		89	75 - 120	3	37
Dibromochloromethane	20.0	16.9		ug/Kg		85	75 - 132	4	40
1,2-Dibromoethane	20.0	18.0		ug/Kg		90	77 - 123	1	37
Chlorobenzene	20.0	16.7		ug/Kg		84	80 - 131	0	40
Ethylbenzene	20.0	18.0		ug/Kg		90	80 - 135	2	37
1,1,1,2-Tetrachloroethane	20.0	16.2		ug/Kg		81	79 - 128	1	40
1,1,2,2-Tetrachloroethane	20.0	17.1		ug/Kg		86	77 - 127	5	40
m-Xylene & p-Xylene	20.0	15.5	*-	ug/Kg		77	80 - 132	1	38
o-Xylene	20.0	17.0		ug/Kg		85	80 - 132	2	39
Styrene	20.0	16.6		ug/Kg		83	79 - 129	0	40
Bromoform	20.0	15.9		ug/Kg		79	71 - 146	2	40
Isopropylbenzene	20.0	17.1		ug/Kg		86	81 - 140	1	40
Bromobenzene	20.0	16.8		ug/Kg		84	78 - 126	3	40
N-Propylbenzene	20.0	16.6		ug/Kg		83	68 - 149	3	40
1,2,3-Trichloropropane	20.0	17.5		ug/Kg		88	77 - 127	9	40
2-Chlorotoluene	20.0	16.5		ug/Kg		82	77 - 134	7	40
1,3,5-Trimethylbenzene	20.0	16.4		ug/Kg		82	72 - 142	5	40
4-Chlorotoluene	20.0	16.0		ug/Kg		80	71 - 137	4	40
t-Butylbenzene	20.0	15.9		ug/Kg		80	72 - 144	3	40
1,2,4-Trimethylbenzene	20.0	16.6		ug/Kg		83	73 - 138	4	40
sec-Butylbenzene	20.0	16.7		ug/Kg		84	71 - 143	7	40
1,3-Dichlorobenzene	20.0	16.4		ug/Kg		82	78 - 132	2	40
4-Isopropyltoluene	20.0	16.5		ug/Kg		82	71 - 142	7	40
1,4-Dichlorobenzene	20.0	16.4		ug/Kg		82	77 - 123	4	40
n-Butylbenzene	20.0	15.4		ug/Kg		77	69 - 143	7	40
1,2-Dichlorobenzene	20.0	16.4		ug/Kg		82	78 - 126	1	40
1,2-Dibromo-3-Chloropropane	20.0	17.4		ug/Kg		87	75 - 129	10	40
1,2,4-Trichlorobenzene	20.0	17.6		ug/Kg		88	74 - 131	4	40
1,2,3-Trichlorobenzene	20.0	16.5		ug/Kg		82	68 - 136	0	40
Hexachlorobutadiene	20.0	15.3		ug/Kg		76	65 - 150	5	36
Naphthalene	20.0	17.6		ug/Kg		88	64 - 136	3	40
Methyl tert-butyl ether	20.0	21.4		ug/Kg		107	77 - 132	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*90*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*80 - 121*

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

Lab Sample ID: MB 580-345599/1-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		150	23	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Bis(2-chloroethyl)ether	ND		100	7.7	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Chlorophenol	ND		200	4.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,3-Dichlorobenzene	ND		50	4.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,4-Dichlorobenzene	ND		50	8.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzyl alcohol	ND		1000	50	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,2-Dichlorobenzene	ND		50	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Methylphenol	ND		150	9.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
3 & 4 Methylphenol	ND		200	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
N-Nitrosodi-n-propylamine	ND		200	22	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachloroethane	ND		150	4.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Nitrobenzene	ND		200	20	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Isophorone	ND		150	8.4	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Nitrophenol	ND		200	6.2	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dimethylphenol	ND		200	60	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzoic acid	ND		4000	1200	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dichlorophenol	ND		200	60	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1,2,4-Trichlorobenzene	ND		50	6.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Naphthalene	34.8		25	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Chloroaniline	ND		1500	130	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachlorobutadiene	ND		50	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Chloro-3-methylphenol	ND		150	33	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Methylnaphthalene	13.9	J	50	8.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachlorocyclopentadiene	ND		100	7.7	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4,6-Trichlorophenol	ND		150	13	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4,5-Trichlorophenol	ND		200	8.1	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Chloronaphthalene	ND		25	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2-Nitroaniline	ND		100	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Dimethyl phthalate	ND		150	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Acenaphthylene	ND		25	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,6-Dinitrotoluene	ND		150	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
3-Nitroaniline	ND		300	100	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Acenaphthene	9.31	J	40	4.6	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dinitrophenol	ND		2000	590	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Nitrophenol	ND		2000	170	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Dibenzofuran	ND		150	5.9	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
2,4-Dinitrotoluene	ND		200	43	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Diethyl phthalate	ND		400	22	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Chlorophenyl phenyl ether	ND		200	6.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Fluorene	ND		25	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Nitroaniline	ND		150	50	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
N-Nitrosodiphenylamine	ND		60	8.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
4-Bromophenyl phenyl ether	ND		200	9.1	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Hexachlorobenzene	ND		50	15	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Pentachlorophenol	ND		400	63	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Phenanthrene	11.3	J	60	5.8	ug/Kg		12/15/20 11:55	12/16/20 14:46	1

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

Lab Sample ID: MB 580-345599/1-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		60	16	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Di-n-butyl phthalate	ND		500	27	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Fluoranthene	ND		40	12	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Pyrene	ND		60	13	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Butyl benzyl phthalate	ND		200	51	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
3,3'-Dichlorobenzidine	ND		400	84	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzo[a]anthracene	ND		40	11	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Chrysene	ND		60	13	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Bis(2-ethylhexyl) phthalate	ND		600	71	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Di-n-octyl phthalate	ND		150	12	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzo[a]pyrene	ND		60	13	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Indeno[1,2,3-cd]pyrene	ND		40	12	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Dibenz(a,h)anthracene	ND		50	12	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzo[g,h,i]perylene	ND		60	18	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Carbazole	ND		150	7.3	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
1-Methylnaphthalene	7.21	J	30	5.0	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzo[b]fluoranthene	ND		40	10	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
Benzo[k]fluoranthene	ND		60	14	ug/Kg		12/15/20 11:55	12/16/20 14:46	1
bis(chloroisopropyl) ether	ND		200	6.1	ug/Kg		12/15/20 11:55	12/16/20 14:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol (Surr)	*88*		*47 - 119*	*12/15/20 11:55*	*12/16/20 14:46*	*1*
Phenol-d5 (Surr)	*84*		*59 - 120*	*12/15/20 11:55*	*12/16/20 14:46*	*1*
Nitrobenzene-d5 (Surr)	*97*		*54 - 120*	*12/15/20 11:55*	*12/16/20 14:46*	*1*
2-Fluorobiphenyl	*106*		*57 - 120*	*12/15/20 11:55*	*12/16/20 14:46*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*52 - 115*	*12/15/20 11:55*	*12/16/20 14:46*	*1*
Terphenyl-d14 (Surr)	*115*		*73 - 125*	*12/15/20 11:55*	*12/16/20 14:46*	*1*

Lab Sample ID: LCS 580-345599/2-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1000	858		ug/Kg		86	59 - 120
Bis(2-chloroethyl)ether	1000	1020		ug/Kg		102	61 - 120
2-Chlorophenol	1000	889		ug/Kg		89	66 - 120
1,3-Dichlorobenzene	1000	881		ug/Kg		88	57 - 120
1,4-Dichlorobenzene	1000	852		ug/Kg		85	57 - 120
Benzyl alcohol	1000	968	J	ug/Kg		97	10 - 134
1,2-Dichlorobenzene	1000	856		ug/Kg		86	62 - 120
2-Methylphenol	1000	780		ug/Kg		78	53 - 120
3 & 4 Methylphenol	1000	807		ug/Kg		81	54 - 120
N-Nitrosodi-n-propylamine	1000	995		ug/Kg		100	56 - 138
Hexachloroethane	1000	881		ug/Kg		88	57 - 132
Nitrobenzene	1000	1020		ug/Kg		102	57 - 128
Isophorone	1000	1010		ug/Kg		101	61 - 128
2-Nitrophenol	1000	993		ug/Kg		99	49 - 123
2,4-Dimethylphenol	1000	747		ug/Kg		75	31 - 129

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

Lab Sample ID: LCS 580-345599/2-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	2000	ND		ug/Kg		22	10 - 120
Bis(2-chloroethoxy)methane	1000	975		ug/Kg		97	60 - 120
2,4-Dichlorophenol	1000	933		ug/Kg		93	63 - 120
1,2,4-Trichlorobenzene	1000	977		ug/Kg		98	66 - 120
Naphthalene	1000	954		ug/Kg		95	68 - 120
4-Chloroaniline	1000	ND	*-	ug/Kg		7	10 - 120
Hexachlorobutadiene	1000	924		ug/Kg		92	64 - 130
4-Chloro-3-methylphenol	1000	1170		ug/Kg		117	55 - 120
2-Methylnaphthalene	1000	945		ug/Kg		95	70 - 120
Hexachlorocyclopentadiene	1000	618		ug/Kg		62	53 - 131
2,4,6-Trichlorophenol	1000	989		ug/Kg		99	37 - 120
2,4,5-Trichlorophenol	1000	781		ug/Kg		78	41 - 120
2-Chloronaphthalene	1000	1100		ug/Kg		110	65 - 120
2-Nitroaniline	1000	1080		ug/Kg		108	54 - 126
Dimethyl phthalate	1000	1070		ug/Kg		107	71 - 120
Acenaphthylene	1000	1080		ug/Kg		108	63 - 120
2,6-Dinitrotoluene	1000	1060		ug/Kg		106	70 - 126
3-Nitroaniline	1000	465		ug/Kg		47	34 - 120
Acenaphthene	1000	1110		ug/Kg		111	64 - 120
2,4-Dinitrophenol	2000	ND	*-	ug/Kg		7	10 - 139
4-Nitrophenol	2000	1780	J	ug/Kg		89	10 - 140
Dibenzofuran	1000	1110		ug/Kg		111	68 - 120
2,4-Dinitrotoluene	1000	1040		ug/Kg		104	63 - 120
Diethyl phthalate	1000	1060		ug/Kg		106	66 - 135
4-Chlorophenyl phenyl ether	1000	1100		ug/Kg		110	70 - 120
Fluorene	1000	1060		ug/Kg		106	68 - 121
4-Nitroaniline	1000	1030		ug/Kg		103	36 - 141
4,6-Dinitro-2-methylphenol	2000	835	J	ug/Kg		42	13 - 141
N-Nitrosodiphenylamine	1000	961		ug/Kg		96	67 - 128
4-Bromophenyl phenyl ether	1000	1010		ug/Kg		101	65 - 127
Hexachlorobenzene	1000	905		ug/Kg		91	65 - 126
Pentachlorophenol	2000	854		ug/Kg		43	10 - 120
Phenanthrene	1000	922		ug/Kg		92	68 - 126
Anthracene	1000	944		ug/Kg		94	67 - 131
Di-n-butyl phthalate	1000	980		ug/Kg		98	66 - 150
Fluoranthene	1000	976		ug/Kg		98	69 - 133
Pyrene	1000	968		ug/Kg		97	68 - 141
Butyl benzyl phthalate	1000	997		ug/Kg		100	58 - 150
3,3'-Dichlorobenzidine	2000	1460		ug/Kg		73	49 - 148
Benzo[a]anthracene	1000	977		ug/Kg		98	60 - 135
Chrysene	1000	1010		ug/Kg		101	69 - 127
Bis(2-ethylhexyl) phthalate	1000	997		ug/Kg		100	45 - 150
Di-n-octyl phthalate	1000	1160		ug/Kg		116	53 - 150
Benzo[a]pyrene	1000	952		ug/Kg		95	62 - 129
Indeno[1,2,3-cd]pyrene	1000	525		ug/Kg		52	52 - 146
Dibenz(a,h)anthracene	1000	629		ug/Kg		63	59 - 139
Benzo[g,h,i]perylene	1000	488	*-	ug/Kg		49	64 - 146
Carbazole	1000	1130		ug/Kg		113	43 - 150
1-Methylnaphthalene	1000	982		ug/Kg		98	69 - 120

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

Lab Sample ID: LCS 580-345599/2-A
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	1000	1070		ug/Kg		107	58 - 136
Benzo[k]fluoranthene	1000	1090		ug/Kg		109	68 - 123
bis(chloroisopropyl) ether	1000	1240	*+	ug/Kg		124	55 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*91*		*47 - 119*
Phenol-d5 (Surr)	*89*		*59 - 120*
Nitrobenzene-d5 (Surr)	*105*		*54 - 120*
2-Fluorobiphenyl	*104*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*82*		*52 - 115*
Terphenyl-d14 (Surr)	*92*		*73 - 125*

Lab Sample ID: 580-99593-4 MS
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: 20-C025783
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	ND		1050	917		ug/Kg	☼	88	59 - 120
Bis(2-chloroethyl)ether	ND		1050	1090		ug/Kg	☼	104	61 - 120
2-Chlorophenol	ND		1050	1010		ug/Kg	☼	96	66 - 120
1,3-Dichlorobenzene	ND		1050	946		ug/Kg	☼	90	57 - 120
1,4-Dichlorobenzene	ND		1050	952		ug/Kg	☼	91	57 - 120
Benzyl alcohol	ND		1050	1080		ug/Kg	☼	104	10 - 134
1,2-Dichlorobenzene	ND		1050	964		ug/Kg	☼	92	62 - 120
2-Methylphenol	ND		1050	882		ug/Kg	☼	84	53 - 120
3 & 4 Methylphenol	ND		1050	863		ug/Kg	☼	83	54 - 120
N-Nitrosodi-n-propylamine	ND		1050	1190		ug/Kg	☼	114	56 - 138
Hexachloroethane	ND		1050	938		ug/Kg	☼	90	57 - 132
Nitrobenzene	ND		1050	1130		ug/Kg	☼	108	57 - 128
Isophorone	ND		1050	1110		ug/Kg	☼	106	61 - 128
2-Nitrophenol	ND		1050	1020		ug/Kg	☼	98	49 - 123
2,4-Dimethylphenol	ND	F2 F1	1050	889		ug/Kg	☼	85	31 - 129
Benzoic acid	ND	F1	2090	ND	F1	ug/Kg	☼	0	10 - 120
Bis(2-chloroethoxy)methane	ND		1050	1060		ug/Kg	☼	101	60 - 120
2,4-Dichlorophenol	ND	F2	1050	1040		ug/Kg	☼	99	63 - 120
1,2,4-Trichlorobenzene	ND		1050	1040		ug/Kg	☼	99	66 - 120
Naphthalene	ND		1050	985		ug/Kg	☼	94	68 - 120
4-Chloroaniline	ND	F1 *-	1050	ND	F1	ug/Kg	☼	0	10 - 120
Hexachlorobutadiene	ND		1050	994		ug/Kg	☼	95	64 - 130
4-Chloro-3-methylphenol	ND	F2	1050	1230		ug/Kg	☼	118	55 - 120
2-Methylnaphthalene	ND		1050	1050		ug/Kg	☼	100	70 - 120
Hexachlorocyclopentadiene	ND	F1	1050	437	F1	ug/Kg	☼	42	53 - 131
2,4,6-Trichlorophenol	ND	F2	1050	1080		ug/Kg	☼	104	37 - 120
2,4,5-Trichlorophenol	ND	F2	1050	870		ug/Kg	☼	83	41 - 120
2-Chloronaphthalene	ND		1050	1120		ug/Kg	☼	107	65 - 120
2-Nitroaniline	ND	F2	1050	1110		ug/Kg	☼	106	54 - 126
Dimethyl phthalate	ND	F2	1050	1060		ug/Kg	☼	101	71 - 120
Acenaphthylene	ND	F2	1050	1090		ug/Kg	☼	104	63 - 120

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

Lab Sample ID: 580-99593-4 MS
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: 20-C025783
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,6-Dinitrotoluene	ND	F2	1050	1100		ug/Kg	☼	105	70 - 126
3-Nitroaniline	ND	F2	1050	600		ug/Kg	☼	57	34 - 120
Acenaphthene	ND	F2	1050	1110		ug/Kg	☼	106	64 - 120
2,4-Dinitrophenol	ND	F1 *-	2090	ND	F1	ug/Kg	☼	0	10 - 139
4-Nitrophenol	ND		2090	1870	J	ug/Kg	☼	90	10 - 140
Dibenzofuran	ND	F2	1050	1110		ug/Kg	☼	106	68 - 120
2,4-Dinitrotoluene	ND		1050	1040		ug/Kg	☼	100	63 - 120
Diethyl phthalate	ND		1050	1080		ug/Kg	☼	103	66 - 135
4-Chlorophenyl phenyl ether	ND	F2	1050	1120		ug/Kg	☼	107	70 - 120
Fluorene	ND	F2	1050	1070		ug/Kg	☼	103	68 - 121
4-Nitroaniline	ND	F2	1050	978		ug/Kg	☼	94	36 - 141
4,6-Dinitro-2-methylphenol	ND	F2	2090	292	J	ug/Kg	☼	14	13 - 141
N-Nitrosodiphenylamine	ND	F2 F1	1050	1070		ug/Kg	☼	102	67 - 128
4-Bromophenyl phenyl ether	ND		1050	1130		ug/Kg	☼	108	65 - 127
Hexachlorobenzene	ND		1050	1060		ug/Kg	☼	101	65 - 126
Pentachlorophenol	ND		2090	1410		ug/Kg	☼	67	10 - 120
Phenanthrene	ND		1050	1060		ug/Kg	☼	101	68 - 126
Anthracene	ND		1050	1070		ug/Kg	☼	102	67 - 131
Di-n-butyl phthalate	ND		1050	1160		ug/Kg	☼	111	66 - 150
Fluoranthene	ND	F2	1050	1140		ug/Kg	☼	109	69 - 133
Pyrene	ND		1050	1130		ug/Kg	☼	108	68 - 141
Butyl benzyl phthalate	ND		1050	1010		ug/Kg	☼	97	58 - 150
3,3'-Dichlorobenzidine	ND	F1	2090	1510		ug/Kg	☼	72	49 - 148
Benzo[a]anthracene	ND		1050	988		ug/Kg	☼	94	60 - 135
Chrysene	ND		1050	982		ug/Kg	☼	94	69 - 127
Bis(2-ethylhexyl) phthalate	ND		1050	1030		ug/Kg	☼	98	45 - 150
Di-n-octyl phthalate	ND		1050	1370		ug/Kg	☼	131	53 - 150
Benzo[a]pyrene	ND		1050	1090		ug/Kg	☼	104	62 - 129
Indeno[1,2,3-cd]pyrene	ND		1050	673		ug/Kg	☼	64	52 - 146
Dibenz(a,h)anthracene	ND		1050	706		ug/Kg	☼	67	59 - 139
Benzo[g,h,i]perylene	ND	F1 *-	1050	559	F1	ug/Kg	☼	53	64 - 146
Carbazole	ND		1050	1260		ug/Kg	☼	120	43 - 150
1-Methylnaphthalene	ND		1050	1070		ug/Kg	☼	102	69 - 120
Benzo[b]fluoranthene	ND		1050	1270		ug/Kg	☼	121	58 - 136
Benzo[k]fluoranthene	ND		1050	1160		ug/Kg	☼	110	68 - 123
bis(chloroisopropyl) ether	ND	F1 *+	1050	1600	F1	ug/Kg	☼	153	55 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorophenol (Surr)	*99*		*47 - 119*
Phenol-d5 (Surr)	*99*		*59 - 120*
Nitrobenzene-d5 (Surr)	*118*		*54 - 120*
2-Fluorobiphenyl	*110*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*103*		*52 - 115*
Terphenyl-d14 (Surr)	*113*		*73 - 125*

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

Lab Sample ID: 580-99593-4 MSD
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: 20-C025783
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	ND		1050	817		ug/Kg	☼	78	59 - 120	12	30
Bis(2-chloroethyl)ether	ND		1050	1080		ug/Kg	☼	103	61 - 120	1	30
2-Chlorophenol	ND		1050	904		ug/Kg	☼	86	66 - 120	11	32
1,3-Dichlorobenzene	ND		1050	906		ug/Kg	☼	87	57 - 120	4	29
1,4-Dichlorobenzene	ND		1050	897		ug/Kg	☼	86	57 - 120	6	35
Benzyl alcohol	ND		1050	977	J	ug/Kg	☼	93	10 - 134	10	40
1,2-Dichlorobenzene	ND		1050	885		ug/Kg	☼	85	62 - 120	9	30
2-Methylphenol	ND		1050	608		ug/Kg	☼	58	53 - 120	37	40
3 & 4 Methylphenol	ND		1050	659		ug/Kg	☼	63	54 - 120	27	36
N-Nitrosodi-n-propylamine	ND		1050	1120		ug/Kg	☼	107	56 - 138	6	35
Hexachloroethane	ND		1050	947		ug/Kg	☼	91	57 - 132	1	34
Nitrobenzene	ND		1050	1110		ug/Kg	☼	106	57 - 128	2	33
Isophorone	ND		1050	1050		ug/Kg	☼	100	61 - 128	6	31
2-Nitrophenol	ND		1050	882		ug/Kg	☼	84	49 - 123	15	30
2,4-Dimethylphenol	ND	F2 F1	1050	193	J F2 F1	ug/Kg	☼	18	31 - 129	129	40
Benzoic acid	ND	F1	2090	ND	F1	ug/Kg	☼	0	10 - 120	NC	40
Bis(2-chloroethoxy)methane	ND		1050	996		ug/Kg	☼	95	60 - 120	6	33
2,4-Dichlorophenol	ND	F2	1050	817	F2	ug/Kg	☼	78	63 - 120	24	19
1,2,4-Trichlorobenzene	ND		1050	918		ug/Kg	☼	88	66 - 120	12	18
Naphthalene	ND		1050	900		ug/Kg	☼	86	68 - 120	9	15
4-Chloroaniline	ND	F1 *-	1050	ND	F1	ug/Kg	☼	0	10 - 120	NC	40
Hexachlorobutadiene	ND		1050	850		ug/Kg	☼	81	64 - 130	16	19
4-Chloro-3-methylphenol	ND	F2	1050	898	F2	ug/Kg	☼	86	55 - 120	31	25
2-Methylnaphthalene	ND		1050	899		ug/Kg	☼	86	70 - 120	15	21
Hexachlorocyclopentadiene	ND	F1	1050	466	F1	ug/Kg	☼	45	53 - 131	6	21
2,4,6-Trichlorophenol	ND	F2	1050	849	F2	ug/Kg	☼	81	37 - 120	24	20
2,4,5-Trichlorophenol	ND	F2	1050	617	F2	ug/Kg	☼	59	41 - 120	34	23
2-Chloronaphthalene	ND		1050	911		ug/Kg	☼	87	65 - 120	20	21
2-Nitroaniline	ND	F2	1050	848	F2	ug/Kg	☼	81	54 - 126	27	16
Dimethyl phthalate	ND	F2	1050	839	F2	ug/Kg	☼	80	71 - 120	23	21
Acenaphthylene	ND	F2	1050	844	F2	ug/Kg	☼	81	63 - 120	26	18
2,6-Dinitrotoluene	ND	F2	1050	891	F2	ug/Kg	☼	85	70 - 126	21	18
3-Nitroaniline	ND	F2	1050	382	F2	ug/Kg	☼	37	34 - 120	44	25
Acenaphthene	ND	F2	1050	905	F2	ug/Kg	☼	87	64 - 120	20	19
2,4-Dinitrophenol	ND	F1 *-	2090	ND	F1	ug/Kg	☼	0	10 - 139	NC	40
4-Nitrophenol	ND		2090	1530	J	ug/Kg	☼	73	10 - 140	20	31
Dibenzofuran	ND	F2	1050	905	F2	ug/Kg	☼	87	68 - 120	20	18
2,4-Dinitrotoluene	ND		1050	826		ug/Kg	☼	79	63 - 120	23	23
Diethyl phthalate	ND		1050	865		ug/Kg	☼	83	66 - 135	22	22
4-Chlorophenyl phenyl ether	ND	F2	1050	871	F2	ug/Kg	☼	83	70 - 120	25	21
Fluorene	ND	F2	1050	854	F2	ug/Kg	☼	82	68 - 121	23	17
4-Nitroaniline	ND	F2	1050	616	F2	ug/Kg	☼	59	36 - 141	45	23
4,6-Dinitro-2-methylphenol	ND	F2	2090	477	J F2	ug/Kg	☼	23	13 - 141	48	40
N-Nitrosodiphenylamine	ND	F2 F1	1050	218	F2 F1	ug/Kg	☼	21	67 - 128	132	30
4-Bromophenyl phenyl ether	ND		1050	888		ug/Kg	☼	85	65 - 127	24	32
Hexachlorobenzene	ND		1050	853		ug/Kg	☼	82	65 - 126	21	32
Pentachlorophenol	ND		2090	1080		ug/Kg	☼	52	10 - 120	26	40
Phenanthrene	ND		1050	866		ug/Kg	☼	83	68 - 126	20	27

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

Lab Sample ID: 580-99593-4 MSD
Matrix: Solid
Analysis Batch: 345700

Client Sample ID: 20-C025783
Prep Type: Total/NA
Prep Batch: 345599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	ND		1050	863		ug/Kg	☼	83	67 - 131	21	28
Di-n-butyl phthalate	ND		1050	935		ug/Kg	☼	89	66 - 150	21	26
Fluoranthene	ND	F2	1050	896	F2	ug/Kg	☼	86	69 - 133	24	21
Pyrene	ND		1050	913		ug/Kg	☼	87	68 - 141	21	24
Butyl benzyl phthalate	ND		1050	996		ug/Kg	☼	95	58 - 150	1	27
3,3'-Dichlorobenzidine	ND	F1	2090	ND	F1	ug/Kg	☼	0	49 - 148	NC	40
Benzo[a]anthracene	ND		1050	953		ug/Kg	☼	91	60 - 135	4	21
Chrysene	ND		1050	969		ug/Kg	☼	93	69 - 127	1	27
Bis(2-ethylhexyl) phthalate	ND		1050	1000		ug/Kg	☼	96	45 - 150	3	25
Di-n-octyl phthalate	ND		1050	1340		ug/Kg	☼	128	53 - 150	3	18
Benzo[a]pyrene	ND		1050	939		ug/Kg	☼	90	62 - 129	14	27
Indeno[1,2,3-cd]pyrene	ND		1050	588		ug/Kg	☼	56	52 - 146	13	30
Dibenz(a,h)anthracene	ND		1050	662		ug/Kg	☼	63	59 - 139	6	29
Benzo[g,h,i]perylene	ND	F1 *-	1050	493	F1	ug/Kg	☼	47	64 - 146	13	26
Carbazole	ND		1050	1010		ug/Kg	☼	97	43 - 150	22	24
1-Methylnaphthalene	ND		1050	938		ug/Kg	☼	90	69 - 120	13	24
Benzo[b]fluoranthene	ND		1050	1160		ug/Kg	☼	111	58 - 136	9	25
Benzo[k]fluoranthene	ND		1050	1190		ug/Kg	☼	113	68 - 123	3	18
bis(chloroisopropyl) ether	ND	F1 *+	1050	1450	F1	ug/Kg	☼	138	55 - 120	10	33

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorophenol (Surr)	*85*		*47 - 119*
Phenol-d5 (Surr)	*84*		*59 - 120*
Nitrobenzene-d5 (Surr)	*97*		*54 - 120*
2-Fluorobiphenyl	*85*		*57 - 120*
2,4,6-Tribromophenol (Surr)	*67*		*52 - 115*
Terphenyl-d14 (Surr)	*85*		*73 - 125*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-345217/1-A
Matrix: Solid
Analysis Batch: 345300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345217

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		5.0	2.3	mg/Kg		12/10/20 09:15	12/10/20 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*	*12/10/20 09:15*	*12/10/20 10:03*	*1*

Lab Sample ID: LCS 580-345217/2-A
Matrix: Solid
Analysis Batch: 345300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345217

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline	40.0	37.3		mg/Kg		93	80 - 120

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-345217/2-A
Matrix: Solid
Analysis Batch: 345300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345217

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		50 - 150

Lab Sample ID: LCSD 580-345217/3-A
Matrix: Solid
Analysis Batch: 345300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345217

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline	40.0	36.4		mg/Kg		91	80 - 120	3	10

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-346049/1-A
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 346049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		50	12	mg/Kg		12/21/20 08:35	12/21/20 19:54	1
Motor Oil (>C24-C36)	ND		50	18	mg/Kg		12/21/20 08:35	12/21/20 19:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	101		50 - 150	12/21/20 08:35	12/21/20 19:54	1

Lab Sample ID: LCS 580-346049/2-A
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	500	458		mg/Kg		92	70 - 125
Motor Oil (>C24-C36)	500	445		mg/Kg		89	70 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	83		50 - 150

Lab Sample ID: LCSD 580-346049/3-A
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	500	486		mg/Kg		97	70 - 125	6	16
Motor Oil (>C24-C36)	500	479		mg/Kg		96	70 - 129	7	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
o-Terphenyl	93		50 - 150

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-99765-A-1-E MS
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
#2 Diesel (C10-C24)	2500	F1	1420	3180	F1	mg/Kg	☼	50	70 - 125
Motor Oil (>C24-C36)	4700	F1	1420	5920		mg/Kg	☼	84	70 - 129

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*78*		*50 - 150*

Lab Sample ID: 580-99765-A-1-F MSD
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
#2 Diesel (C10-C24)	2500	F1	1430	3400	F1	mg/Kg	☼	65	70 - 125	7	16
Motor Oil (>C24-C36)	4700	F1	1430	6650	F1	mg/Kg	☼	135	70 - 129	12	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*85*		*50 - 150*

Lab Sample ID: 580-99593-1 DU
Matrix: Solid
Analysis Batch: 346129

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 346049

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
#2 Diesel (C10-C24)	ND		ND		mg/Kg	☼	NC	35
Motor Oil (>C24-C36)	29	J	36.3	J	mg/Kg	☼	21	35

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
o-Terphenyl	*89*		*50 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 580-345820/21-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.50	0.048	mg/Kg		12/17/20 12:22	12/18/20 12:04	10
Cadmium	ND		0.80	0.077	mg/Kg		12/17/20 12:22	12/18/20 12:04	10
Arsenic	ND		0.50	0.10	mg/Kg		12/17/20 12:22	12/18/20 12:04	10
Chromium	ND		1.0	0.063	mg/Kg		12/17/20 12:22	12/18/20 12:04	10

Lab Sample ID: LCS 580-345820/22-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	50.0	51.9		mg/Kg		104	80 - 120
Cadmium	50.0	50.8		mg/Kg		102	80 - 120
Arsenic	50.0	51.4		mg/Kg		103	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-345820/22-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	50.0	52.4		mg/Kg		105	80 - 120

Lab Sample ID: LCSD 580-345820/23-A
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	50.0	52.4		mg/Kg		105	80 - 120	1	20
Cadmium	50.0	51.3		mg/Kg		103	80 - 120	1	20
Arsenic	50.0	52.1		mg/Kg		104	80 - 120	1	20
Chromium	50.0	52.9		mg/Kg		106	80 - 120	1	20

Lab Sample ID: 580-99593-1 MS
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	9.0		39.4	56.2		mg/Kg	☼	120	80 - 120
Cadmium	0.11	J	39.4	47.4		mg/Kg	☼	120	80 - 120
Arsenic	6.2		39.4	49.2		mg/Kg	☼	109	80 - 120
Chromium	26		39.4	68.1		mg/Kg	☼	107	80 - 120

Lab Sample ID: 580-99593-1 MSD
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	9.0		39.8	49.0		mg/Kg	☼	100	80 - 120	14	20
Cadmium	0.11	J	39.8	40.1		mg/Kg	☼	100	80 - 120	17	20
Arsenic	6.2		39.8	43.8		mg/Kg	☼	95	80 - 120	12	20
Chromium	26		39.8	62.2		mg/Kg	☼	91	80 - 120	9	20

Lab Sample ID: 580-99593-1 DU
Matrix: Solid
Analysis Batch: 345924

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345820

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	9.0		8.90		mg/Kg	☼	1	20
Cadmium	0.11	J	0.111	J	mg/Kg	☼	5	20
Arsenic	6.2		5.86		mg/Kg	☼	5	20
Chromium	26		24.3		mg/Kg	☼	7	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-345513/22-A
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 345513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		12/14/20 13:46	12/15/20 11:53	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 580-345513/23-A
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.170		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 580-345513/24-A
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 345513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.167	0.168		mg/Kg		101	80 - 120	1	20

Lab Sample ID: 580-99593-1 MS
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.022		0.120	0.157		mg/Kg	☼	113	80 - 120

Lab Sample ID: 580-99593-1 MSD
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345513

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.022		0.122	0.167		mg/Kg	☼	119	80 - 120	6	20

Lab Sample ID: 580-99593-1 DU
Matrix: Solid
Analysis Batch: 345714

Client Sample ID: 20-C025780
Prep Type: Total/NA
Prep Batch: 345513

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.022		0.0241		mg/Kg	☼	8	20

Method: 2540G - SM 2540G

Lab Sample ID: 580-99605-A-5 DU
Matrix: Solid
Analysis Batch: 345181

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	77.3		77.4		%		0.09	20
Percent Moisture	22.7		22.6		%		0.3	20

Lab Chronicle

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99593-1

Client Sample ID: 20-C025780

Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	345181	12/09/20 15:39	S1S	TAL SEA

Client Sample ID: 20-C025780

Date Collected: 12/07/20 12:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-1
Matrix: Solid
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			345397	12/08/20 15:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	345537	12/11/20 22:03	CJB	TAL SEA
Total/NA	Prep	3546			345374	12/11/20 15:17	S1S	TAL SEA
Total/NA	Analysis	8270E		1	345574	12/15/20 18:39	W1T	TAL SEA
Total/NA	Prep	5035			345217	12/10/20 09:15	JSM	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	345300	12/10/20 12:30	CJ	TAL SEA
Total/NA	Prep	3546			346049	12/21/20 08:35	CCH	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	346129	12/21/20 22:14	ADB	TAL SEA
Total/NA	Prep	3050B			345820	12/17/20 12:22	JCP	TAL SEA
Total/NA	Analysis	6020B		10	345924	12/18/20 12:11	FCW	TAL SEA
Total/NA	Prep	7471A			345513	12/14/20 13:46	JCP	TAL SEA
Total/NA	Analysis	7471A		1	345714	12/15/20 11:59	FCW	TAL SEA

Client Sample ID: 20-C025781

Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	345181	12/09/20 15:39	S1S	TAL SEA

Client Sample ID: 20-C025781

Date Collected: 12/07/20 08:30
Date Received: 12/08/20 14:44

Lab Sample ID: 580-99593-2
Matrix: Solid
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			345397	12/08/20 15:00	ASJ	TAL SEA
Total/NA	Analysis	8260D		1	345537	12/11/20 22:29	CJB	TAL SEA
Total/NA	Prep	3546			345374	12/11/20 15:17	S1S	TAL SEA
Total/NA	Analysis	8270E		1	345574	12/15/20 19:02	W1T	TAL SEA
Total/NA	Prep	5035			345217	12/10/20 09:15	JSM	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	345300	12/10/20 12:54	CJ	TAL SEA
Total/NA	Prep	3546			346049	12/21/20 08:35	CCH	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	346129	12/21/20 22:54	ADB	TAL SEA
Total/NA	Prep	3050B			345820	12/17/20 12:22	JCP	TAL SEA
Total/NA	Analysis	6020B		10	346045	12/18/20 17:00	FCW	TAL SEA
Total/NA	Prep	7471A			345513	12/14/20 13:46	JCP	TAL SEA
Total/NA	Analysis	7471A		1	345714	12/15/20 12:08	FCW	TAL SEA

Lab Chronicle

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99593-1

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99593-1

Laboratory: Eurofins TestAmerica, Seattle

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

Authority	Program	Identification Number	Expiration Date
Washington	State	C553	02-18-21

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

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids

Sample Summary

Client: Cascade Analytical Inc
Project/Site: ANS Geo

Job ID: 580-99593-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-99593-1	20-C025780	Solid	12/07/20 12:30	12/08/20 14:44	
580-99593-2	20-C025781	Solid	12/07/20 08:30	12/08/20 14:44	

Eurofins TestAmerica, Seattle
5755 8th Street East

Tacoma, WA 98424-1317
phone 253.922.2310 fax 253.922.5047

Chain of Custody Record
Sample Origin: State of WA

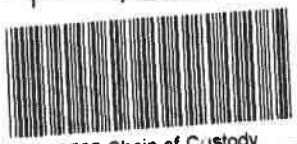
eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Andy Schut	Site Contact: Same	Date: 12/7/20	TALS Project #:
Eurofins Cascade Analytical, Union Gap	Email: andrewschut@eurofinsus.com	Lab Contact:	Carrier: UPS	COC No:
1008 W Ahtanum Rd Ste 2	Tel: 509-452-7707			____ of ____ COCs
Union Gap	Analysis Turnaround Time		Loc: 580 99593	[1] Sampler:
(509) 452-7707 Phone	☐ CALENDAR DAYS ☑ WORKING DAYS			[1] Refer to note below.
(xxx) xxx-xxxx FAX	TAT if different from Below ____			For Lab Use Only:
Project Name: ANS Geo	☑ 2 weeks			Walk-in Client:
Site:	☐ 1 week			Lab Sampling:
P O # 017005	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8260 D SIM	8270 C SIM	NWTPH-Dx	NWTPH-Gx	MTCA-5 Metals	Sample Specific Notes:
20-C025780	7-Dec	12:30	G	S	4			x	x	x	x	x	
20-C025781	12/7/20	8:30	G	s	4			x	x	x	x	x	



Therm ID: A1 Cor: -0.2 ° Unc: 0.7 °
Cooler Dsc: Styro box
Packing: bub
Cust. Seal: Yes ✓ No ____
(Blue Ice) Wet, Dry, None
FedEx: ____
UPS: Grd
Lab Cour: ____
Other: ____

[1] I attest to the validity and authenticity of this (these) sample(s). I am aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636)
Signature: ____ Date ____

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments: Drinking water samples for compliance with Oregon Health Authority. Please report to Oregon state.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by: James King	Company: Eurofins Cascade - UG	Date/Time: 12/7/20 16:30	Received by: Ian Blank	Company: TA-Sea	Date/Time: 12/8/20
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-004, Rev. 1.22, dated 12/3/2019

Login Sample Receipt Checklist

Client: Cascade Analytical Inc

Job Number: 580-99593-1

Login Number: 99593
List Number: 1
Creator: Hobbs, Kenneth F

List Source: Eurofins TestAmerica, Seattle

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

Eurofins TestAmerica, Seattle
5755 8th Street East

Tacoma, WA 98424-1317
phone 253.922.2310 fax 253.922.5047

Chain of Custody Record
Sample Origin: State of WA

eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	**Project Manager: Andy Schut**		TALS Project #:
Eurofins Cascade Analytical, Union Gap	**Email: andrewschut@eurofinsus.com**	**Site Contact: Same**	**Date: 12/7/20**	COC No:
1008 W Ahtanum Rd Ste 2	**Tel: 509-452-7707**	**Lab Contact:**	**Carrier: UPS**	_____ of _____ COCs
Union Gap	**Analysis Turnaround Time**			[1] Sampler:
(509) 452-7707 Phone	☐ CALENDAR DAYS ☑ WORKING DAYS			[1] Refer to note below.
(xxx) xxx-xxxx FAX	TAT if different from Below _____			**For Lab Use Only:**
Project Name: ANS Geo	☑ 2 weeks			Walk-in Client:
Site:	☐ 1 week			Lab Sampling:
P O # 017005	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	8260 D SIM	8270 C SIM	NWTPH-Dx	NWTPH-Gx	MTCA-5 Metals	Sample Specific Notes:
20-C025780	7-Dec	12:30	G	S	4			x	x	x	x	x	
20-C025781	12/7/20	8:30	G	s	4			x	x	x	x	x	

[1] I attest to the validity end euthenticity of this (these) sample(s). I am aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636)
Signature:_____ Date_____

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Possible Hazard Identification:
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Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: Drinking water samples for compliance with Oregon Health Authority. Please report to Oregon state.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Attachment G

Seismic Support Data

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	0 ft (NAVD 88)
Risk Category:	II	**Latitude:**	46.531375
Soil Class:	C - Very Dense Soil and Soft Rock	**Longitude:**	-119.967774

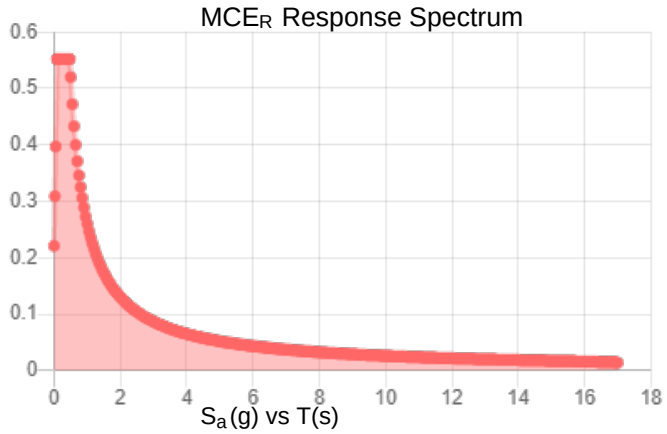
Seismic

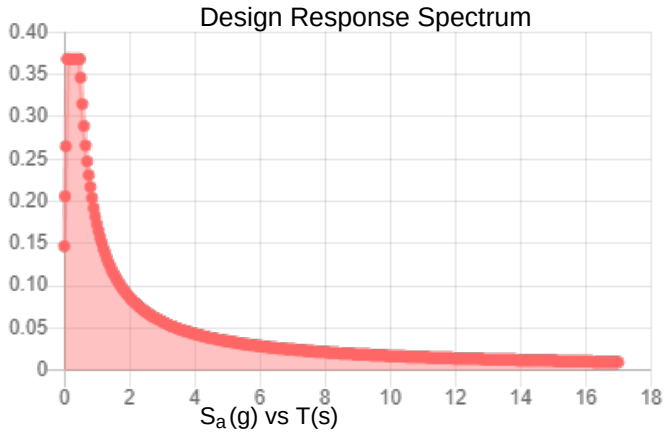
Site Soil Class: C - Very Dense Soil and Soft Rock

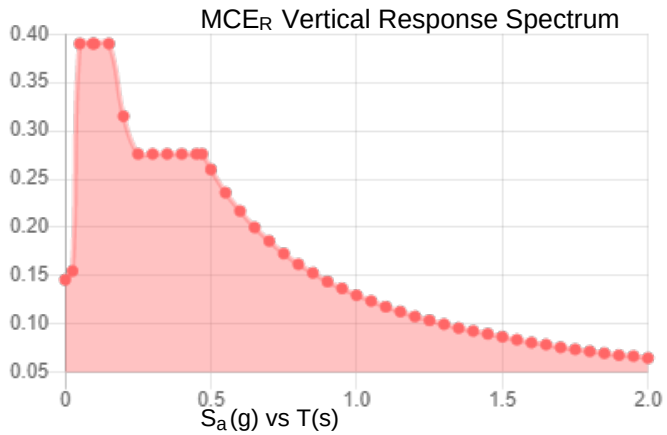
Results:

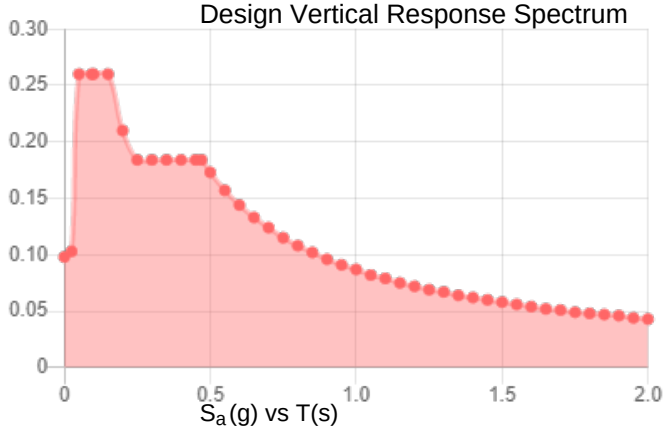
S_S :	0.425	S_{D1} :	0.173
S_1 :	0.173	T_L :	16
F_a :	1.3	PGA :	0.19
F_v :	1.5	PGA_M :	0.23
S_{MS} :	0.552	F_{PGA} :	1.21
S_{M1} :	0.26	I_e :	1
S_{DS} :	0.368	C_v :	0.883

Seismic Design Category C









Data Accessed: Fri Jan 08 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

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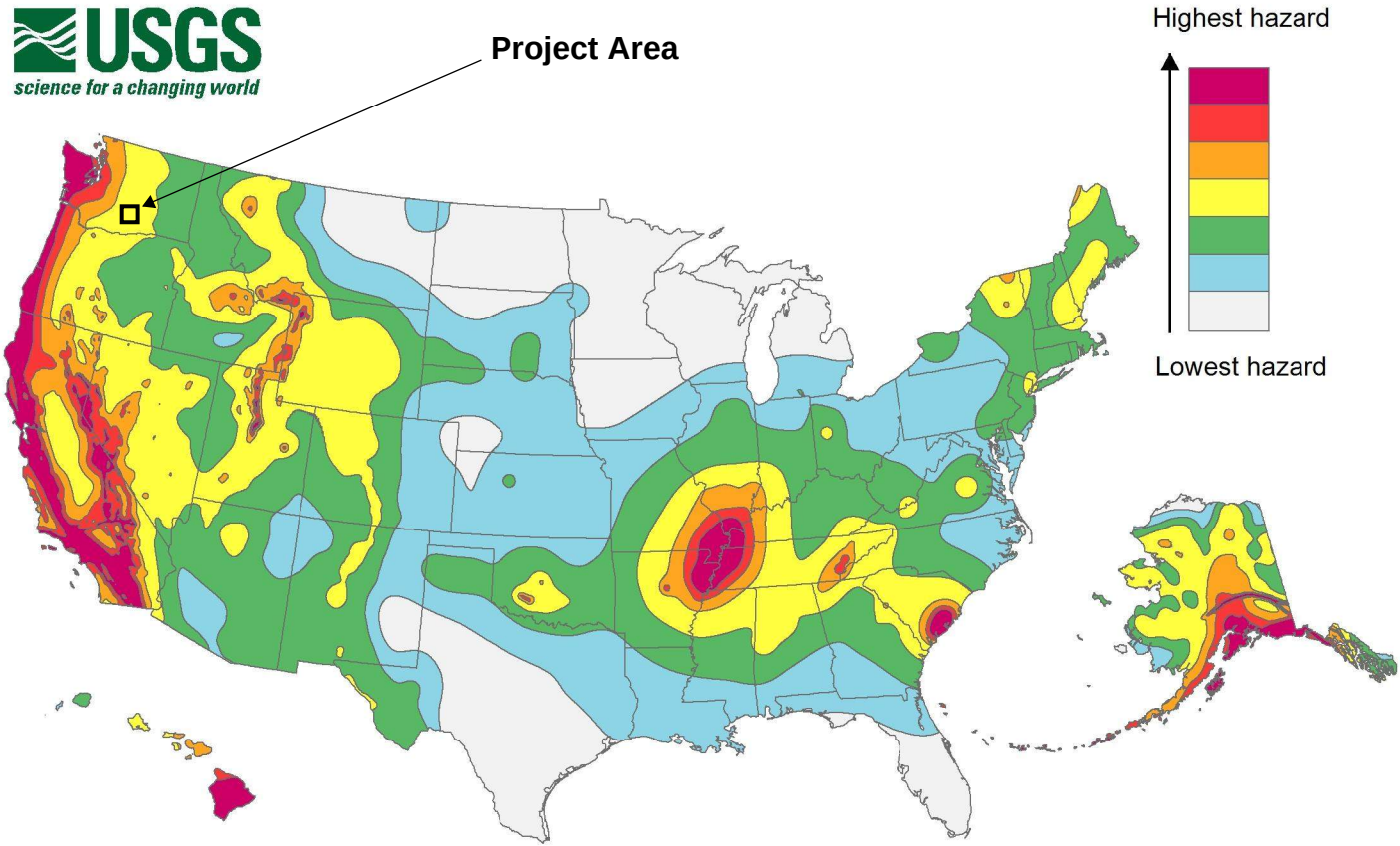
USGS
science for a changing world
Project Area
Highest hazard
Lowest hazard