BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

July 17, 2019

Mr. Benjamin McPherson
NYSDEC Division of Environmental Remediation
270 Michigan Avenue
Buffalo, NY 14203

Re: Soil Characterization for Off-Site Export &
Partial Stormwater System Removal/Replacement
Moog 170 Jamison Road Site, Elma, NY (Site)
NYSDEC Site No. 915315

Dear Mr. McPherson:

On behalf of our client, Moog Inc. (Moog), Benchmark Environmental Engineering and Science, PLLC (Benchmark) has prepared this work plan to complete soil characterization for off-site export and partial stormwater sewer system removal/replacement for the above referenced Site.

Soil Characterization for Export or Re-Use

A subsurface detention basin is planned to be built at the location shown on Figure 1. This will result in generating approximately 3,000 cubic yards of excess soil. Additionally, approximately 225 feet of stormwater conveyance line is planned to be removed as part of the stormwater system reconfiguration activities described below and shown in red on Figure 1. The stormwater conveyance line removal will result in generating approximately 600 cubic yards of overburden soil; approximately 400 cubic yards will be placed back in the same excavation and approximately 200 cubic yards will be excess soil. The detention basin area soils were tested to assess their potential reuse on the 1827 Fillmore Avenue Brownfield Cleanup Program (BCP) Site (C915279) and the stormwater conveyance line removal area soils were tested to assess either potential reuse on the 1827 Fillmore Avenue BCP Site and/or their potential re-use on-Site as backfill as described above.

Stormwater Conveyance Line Removal Soil Sampling & Analytical Summary

Five spatially representative test pits, designated SW-1 through SW-5, were completed to approximately 8 feet below ground surface (fbgs) (i.e., the approximate depth to the top of stormwater line bedding) within the area of the stormwater conveyance line that will be replaced [note- stormwater pipe bedding material was not encountered or characterized during this task but will be screened and

characterized during stormwater pipe removal/replacement as discussed further below]. Benchmark personnel collected 5 discrete soil samples from varying depths between 0 and 8 fbgs, which were analyzed for volatile organic compounds (VOCs), and two composite soil samples, which were analyzed for semi-volatile organic compounds (SVOCs), metals, pesticides, polychlorinated biphenyls (PCBs), 1,4-dioxane, and per- and poly-fluoroalkyl substances (PFAS) in accordance with Table 5.4(e)10 in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation. En-core samplers were used to collect the discrete VOC soil samples. All composite samples were collected using dedicated stainless-steel sampling tools. Representative soil samples were placed in pre-cleaned laboratory provided sample bottles; cooled to 4°C in the field and transported under chain-of-custody command to Alpha Analytical, a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory.

Soil characterization data collected from the work area, as well as Remedial Investigation (RI) data previously collected from this area, indicates that the soil meets NYSDEC DER-10 commercial use criteria and does not contain PFAS at or above 1 ug/kg (see Table 1). Accordingly, it may be re-used on-Site or exported to another commercial use BCP site. Therefore, Benchmark will prepare a NYSDEC Request to Import/Reuse Fill or Soil Form on behalf of Moog for submission to the NYSDEC for potential reuse at the 1827 Fillmore Avenue BCP site.

Subsurface Detention Basin Soil Sampling & Analytical Summary

Eleven spatially representative test pits, designated DP-1 through DP-11, were completed to approximately 6 (fbgs) within the subsurface detention basin footprint. Benchmark personnel collected 11 discrete soil samples from varying depths between 0 and 6 fbgs, which were analyzed for VOCs, and four composite soil samples, which analyzed for SVOCs, metals, pesticides, PCBs, 1,4-dioxane, and PFAS in accordance with Table 5.4(e)10 in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation. En-core samplers were used to collect the discrete VOC soil samples. All composite samples were collected using dedicated stainless-steel sampling tools. Representative soil samples were placed in pre-cleaned laboratory provided sample bottles; cooled to 4°C in the field and transported under chain-of-custody command to Alpha Analytical, a NYSDOH ELAP-certified analytical laboratory.

Soil characterization data from this area indicates that the majority of soil to be removed may be re-used on-Site or exported to another commercial use BCP site. As shown on the attached Table 1, the soil samples representing the northeastern portion of the planned excavation area had detections of

acetone (DP-VOC-6) and SVOCs (DP-Comp-2, a composite of discrete samples from DP-VOC-4, -5 and -6) slightly above their allowable concentrations for re-use at another site.

Soil characterization data from the remaining portion of the excavation indicates that the soil may be re-used on-Site or exported to another site. Regarding composite sample DP-Comp-1, which is a composite of discrete samples DP-VOC-1, -2 and -3, that sample detected arsenic at 19.2 mg/kg, slightly above its allowable concentration of 16 mg/kg; however, upon receiving that result Benchmark requested the laboratory to analyze the three discrete samples that comprised the DP-Comp-1 composite sample for arsenic due to the initial reported concentration. Each of the three discrete samples reported arsenic well below 16 mg/kg. Based on the results of the discrete samples, the soil represented by these results meets the criteria for off-site or on-Site re-use.

Benchmark will prepare a NYSDEC Request to Import/Reuse Fill or Soil Form on behalf of Moog for submission to the NYSDEC for reuse of the soil from the portion of the excavation excluding sample locations DP-4, -5 and -6 (see Figure 1) at the 1827 Fillmore Avenue BCP site.

Stormwater System Reconfiguration

As discussed with the Department, as part of the remediation and redevelopment of this BCP Site, the storm sewer system is being modified. For purposes of this work plan, the storm sewer lines on the north side of new Buildings 1A and 3A will be removed and replaced in phases (see Figure 1). The subsurface detention basin will be installed subsequent to the stormwater conveyance line replacement. The sequence of work will be as follows:

1) New stormwater conveyance piping and new manholes MH-AA, MH-R, MH-S, MH-1 and MH-2 shown in green on Figure 1 will be installed and new welded HDPE piping will be routed from new manhole MH-AA to new manhole MH-2. Existing stormwater conveyance pipes that currently connect to existing manholes MH-AA, MH-R and MH-S will be extended and connected to new manholes MH-AA, MH-R and MH-S. New manhole MH-2 will be installed in the existing downgradient stormwater piping shown in gray on Figure 1; therefore, stormwater will continue to flow the existing air stripper and to outfall 006 until a new air stripper is designed and installed at a later date.
2) New stormwater conveyance piping from manhole new MH-1 to the Seneca Street stormwater piping leg also shown in green on Figure 1 will be installed for convenience, but not tied into

new MH-1 until a new air stripper is designed and installed in the approximate location shown on Figure 1.

3) The existing portion of the outfall 006 stormwater conveyance line from existing manhole MH-AA to existing manhole MH-T and existing manholes MH-AA, MH-R, and MH-S shown in red on Figure 1 will be removed; the remainder of the existing stormwater line from MH-T to outfall OF-006 will be removed at a later date after a new air stripper is designed and installed in the approximate location shown on Figure 1.
4) The new subsurface detention basin will be installed in the area shown on Figure 1.

Engineering Oversight and Material Screening-Stormwater Conveyance Line Replacement

During the installation of the new stormwater conveyance lines and manholes and removal of the existing stormwater conveyance lines and manholes described above, Benchmark will provide engineering oversight. Benchmark personnel will screen soils, stormwater piping, and bedding material using a PID (equipped with an 11.7eV lamp) as well as visual and olfactory observations during excavation activities. Any materials that appear contaminated based on visual/olfactory evidence or sustained PID readings above 10 ppm, will be staged in a pile encapsulated with plastic (to prevent contamination of the surface soils and to protect the soils from erosion).

Overlying soil, bedding material and sewer piping will be staged in separate stockpiles. Uncontaminated overlying soils will be staged along the excavation for reuse as backfill (approximately 400 cubic yards) or off-site re-use (approximately 200 cubic yards). Benchmark will assist the contractor in coordinating segregation of the materials, stockpiling, and covering the materials on-Site, and identifying a suitable waste characterization plan and proper waste management plan (e.g., off-Site transportation and disposal at a licensed commercial or hazardous landfill, as applicable) in consultation with the Department.

The existing stormwater piping and manholes will be removed, hand-cleaned to remove residual soil or debris, and any residual sludge or sediment contents will be drummed for proper characterization and off-Site disposal. Provided the stormwater piping and manhole materials are free of residual soil or debris, the materials may be disposed or recycled by Moog in accordance with solid waste regulations and in consultation with the Department.

Engineering Oversight and Material Screening- New Subsurface Detention Basin

During the installation of the new subsurface detention basin, Benchmark will provide engineering oversight during soil excavation in the approximate area shown on Figure 1. Based on visual and olfactory observations made during soil characterization activities, obvious impacted soil is not present in this area; however analytical data shows test pit locations DP-4, -5 and -6 showed elevated concentrations of acetone and SVOCs slightly above allowable concentrations for re-use at another site. Therefore, soil from the area of DP-4, -5 and -6 will be characterized for off-site disposal. Upon approval of the Request to Import/Reuse Fill or Soil from the Department, the non-impacted remaining soil will be direct loaded for off-site re-use at the 1827 Fillmore Avenue BCP site.

Off-site Transportation and Disposal/Recycling/Re-use of Materials

Moog and Benchmark will consult with the Department prior to transporting clean soil, impacted soil/bedding (if any), and the stormwater piping and manholes material off-site for recycling or disposal.

Post-excavation samples

If VOC-impacted materials are identified and removed during storm sewer replacement, post-excavation samples will be collected from the excavation sidewalls and bottoms to document subsurface conditions.

Soil from the area of DP-4, -5 and -6 in the detention basin area will be transported and disposed of off-site at a licensed commercial landfill facility. Post-excavation sidewall and bottom samples will be collected for USEPA Target Compound List (TCL) VOCs, TCL SVOCs (base-neutral fraction), and RCRA metals. One sidewall sample will be collected for every 30 linear feet of sidewall and one bottom sample will be collected for every 900 square feet of bottom area in accordance with DER-10. Sample locations will be coordinated with the Department.

Import Material

In accordance with criteria contained in NYSDEC DER-10 and per BCP requirements, all backfill soils imported to the Site will need to be free of visual/olfactory impact and meet commercial use import criteria for the required analysis for compounds listed in 6NYCRR Part 375-6 in addition to 1,4-dioxane, and PFAS. Non-soil material (e.g., gravel, stone) are exempt from testing provided they meet certain gradation requirements and/or are approved for import under a beneficial use determination (BUD) under New York State solid waste (NYCRR Part 360) regulations. At this time

no import soils are expected. If construction-related aggregate material (e.g., gravel) not previously approved for import is needed during this work or if additional materials beyond the volumes previously approved are needed, Benchmark will seek approvals for import from the NYSDEC.

Groundwater Handing, Storage and Treatment

Water removed from excavations by dewatering during the work will be pre-treated in a groundwater treatment system (GWTS) on-site prior to discharge. Extracted water will be treated using a bag filter and granular activated carbon (GAC), tested every 7,000-gallons to confirm VOCs meet NYSDEC groundwater quality standards (GWQS) and discharged either to the ground surface or to the existing storm sewer system upstream of the air stripper. Following completion of excavation/removal work, settled solids remaining in the tank will be characterized for off-site disposal. The tank(s) will be cleaned prior to being transported off-Site; cleaning residuals will be disposed with the settled solids. Each vessel of spent GAC will be characterized for disposal at a permitted disposal facility in accordance with applicable federal and state regulations.

Community Air Monitoring

Community air monitoring will be performed by Benchmark during the work in accordance with the approved Community Air Monitoring Plan (CAMP). Monitoring equipment will include a continuous recording particulate monitor with data logging capability and a PID for organic vapors; one unit will be placed downwind of the work area (to be determined each day). In addition to the provisions established in the generic CAMP, due to potential sensitive receptors north of Jamison Road, supplemental site-specific community air monitoring will include:

- Particulate and VOC monitoring at the northwest corner of the Site proximate MW-6; and,
- Particulate and VOC monitoring at the northeast corner of the Site proximate MH-AB.

These additional monitoring stations will be placed in these locations regardless of wind direction. If monitoring indicates action limit exceedances (5 ppm organic vapor, 150 micrograms per cubic meter of airborne particulate) the excavation contractor will be informed and corrective actions will be required (e.g., work stoppage, applying a water spray). At a minimum, CAMP reports will include daily CAMP data and a figure showing work zones, CAMP monitoring stations, and wind directions. All

individual CAMP exceedances and associated corrective actions will be communicated to the Department and NYSDOH within one day of the exceedance.

Reporting

These work activities will be documented in the Final Engineering Report (FER). The horizontal and vertical extent of the excavations will be documented by Benchmark personnel and "as-built" drawings prepared. The elevations of all new storm water piping, manholes, and bedding material will also be recorded.

Schedule

The work outlined herein is planned to be performed starting July 22, 2019. The first phase of the work will be the sewer line removal/replacement which will be completed over approximately 3 weeks. The detention basin area work is expected to start in mid-August and anticipated to be completed over approximately 3 to 4 weeks. Please contact us if you have any questions or require additional information.

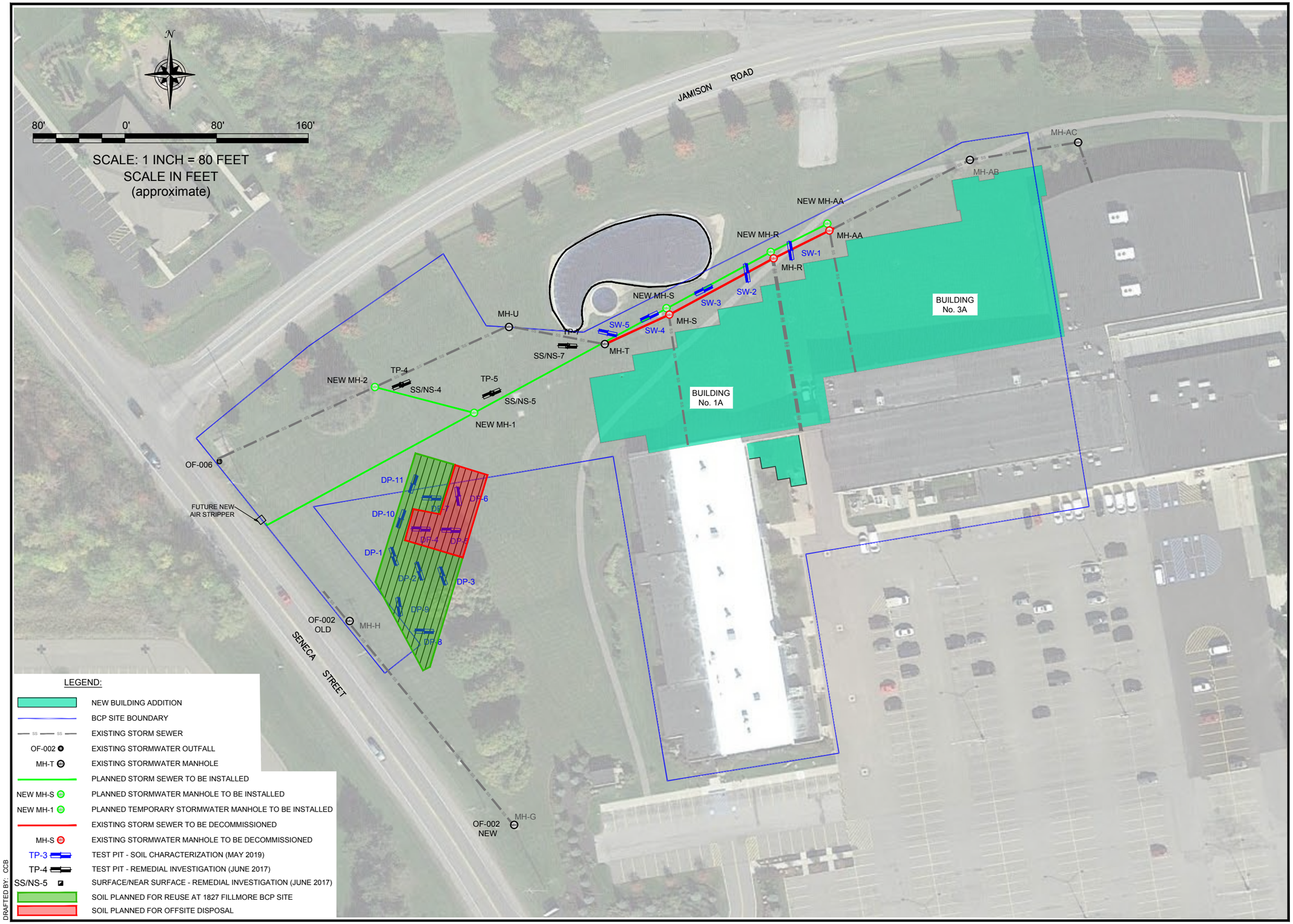
Sincerely,
Benchmark Environmental Engineering and Science, PLLC

Mike A. Lesakowski
Sr. Project Manager

EC: Meri Scappatura, Moog
Robin Young, Moog

File: 0400-017-001

F:\CAD\Benchmark\Moog\170 Jamison Road\Soil Characterization and Storm Line Reconfiguration\Figure 1- Soil Sample Locations & Stormwater System Reconfiguration.dwg



DATE: MAY 2019
DRAFTED BY: CCB

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JOB NO.: 0400-017-001

SOIL CHARACTERIZATION FOR OFF-SITE EXPORT & PARTIAL STORMWATER SYSTEM REMOVAL/REPLACEMENT

170 JAMISON ROAD SITE
BCP SITE NO. C915315
ELMA, NEW YORK

PREPARED FOR
MOOG INC.

FIGURE 1

TABLE 1
SUMMARY OF SOIL CHARACTERIZATION ANALYTICAL DATA
170 JAMISON ROAD SITE
ELMA, NEW YORK

Parameter [1]	DER-10 Commercial Use Import Criteria	REMEDIAL INVESTIGATION (STORMWATER PIPING AREA)											STORMWATER PIPING AREA							SUBSURFACE DETENTION BASIN AREA													
		Comp SS-1 to SS-4	Comp SS-5 to SS-7	NS-4	NS-5	NS-7	Comp NS-1 to NS-4	Comp NS-5 to NS-7	Comp NS-12 to NS-14	TP-4 (5'-10')	TP-4 (10'-11.5')	TP-5 (10'-15')	SW-VOC-1 (6'-8')	SW-VOC-2 (4'-6')	SW-VOC-3 (2'-4')	SW-COMP-1 (SW-VOC-1 SW-VOC-2 SW-VOC-3)	SW-VOC-4 (0'-2')	SW-VOC-5 (6'-8')	SW-COMP-2 (SW-VOC-3 SW-VOC-4 SW-VOC-5)	DP-VOC-1 (4'-6')	DP-VOC-2 (2'-4')	DP-VOC-3 (0'-2')	DP-COMP-1 (DP-VOC-1 DP-VOC-2 DP-VOC-3)	DP-VOC-4 (4'-6')	DP-VOC-5 (2'-4')	DP-VOC-6 (0'-2')	DP-COMP-2 (DP-VOC-4 DP-VOC-5 DP-VOC-6)	DP-VOC-7 (4'-6')	DP-VOC-8 (2'-4')	DP-VOC-9 (0'-2')	DP-COMP-3 (DP-VOC-7 DP-VOC-8 DP-VOC-9)	DP-VOC-10 (4'-6')	DP-VOC-11 (2'-4')	DP-COMP-4 (DP-VOC-9 DP-VOC-10 DP-VOC-11)
		6/19/2017	6/19/2017	6/19/2017	6/19/2017	6/19/2017	6/19/2017	6/19/2017	6/19/2017	6/29/2017	6/29/2017	6/28/2017	5/30/2019																				
Volatile Organic Compounds (VOCs) - mg/kg [3]																																
Acetone	**0.05**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	0.016	0.021	0.0056 J	NA	ND	0.011	NA	ND	0.015	ND	NA	0.012	ND	**0.12**	NA	0.017 J	0.01 J	ND	NA	0.025	0.012 J	NA
2-Butanone (MEK)	**0.12**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	0.016	NA	ND	ND	ND	NA	ND	ND	NA
Tetrachloroethene	**1.3**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	0.00091	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
1,1 -Dichloroethane	**0.27**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	0.0059	0.0019	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
Ethylbenzene	**41**	NA	NA	0.00076 J-	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
1,1,1-Trichloroethane	**0.68**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	0.00042 J	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	0.00051 J	NA
1,1,2-Trichloroethane	**--**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	0.0012	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	**--**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	0.00081 J	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
Trichloroethene	**0.47**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	0.00016 J	ND	NA	ND	0.00024 J	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
Vinyl chloride	**13**	NA	NA	ND	ND	ND	NA	NA	NA	NA	ND	0.0041 J	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
Total Xylene	**500**	NA	NA	0.0014 J-	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	NA
Semi-Volatile Organic Compounds (SVOCs) - mg/kg [3]																																
Acenaphthylene	**107**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	0.29	NA	NA	NA	ND	NA	NA	0.03 J
Anthracene	**500**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	0.46	NA	NA	NA	ND	NA	NA	ND
Benzo(a)anthracene	**1**	0.19 J	0.37 J	NA	NA	NA	0.46 J	0.27 J	0.3 J	ND	ND	NA	NA	NA	NA	0.024 J	NA	NA	0.032 J	NA	NA	NA	0.022 J	NA	NA	NA	**1.6**	NA	NA	NA	0.034 J	NA	NA	0.078 J
Benzo(b)fluoranthene	**1.7**	0.29 J	0.52 J	NA	NA	NA	0.61 J	0.29 J	0.47 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	0.04 J	NA	NA	NA	ND	NA	NA	NA	**1.9**	NA	NA	NA	0.047 J	NA	NA	0.11
Benzo(k)fluoranthene	**1.7**	ND	0.28 J	NA	NA	NA	0.24 J	0.25 J	0.17 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.64	NA	NA	NA	ND	NA	NA	0.036 J
Benzo(g,h,i)perylene	**500**	0.16 J	0.33 J	NA	NA	NA	0.28 J	0.24 J	0.26 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.81	NA	NA	NA	ND	NA	NA	0.055 J
Benzo(a)pyrene	**1**	0.22 J	0.39 J	NA	NA	NA	0.43 J	0.25 J	0.34 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	**1.4**	NA	NA	NA	ND	NA	NA	0.077 J
Carbazole	**--**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.22	NA	NA	NA	ND	NA	NA	ND
Chrysene	**1**	ND	0.46 J	NA	NA	NA	0.49 J	0.29 J	0.32 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	0.03 J	NA	NA	NA	ND	NA	NA	NA	**1.4**	NA	NA	NA	0.032 J	NA	NA	0.076 J
Dibenzo(a,h)anthracene	**0.56**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.21	NA	NA	NA	ND	NA	NA	ND
Dibenzofuran	**--**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.04 J	NA	NA	NA	ND	NA	NA	ND
Fluoranthene	**500**	0.4 J	0.89 J	NA	NA	NA	0.91 J	0.64 J	0.6 J	ND	ND	NA	NA	NA	NA	0.04 J	NA	NA	0.058 J	NA	NA	NA	0.042 J	NA	NA	NA	3	NA	NA	NA	0.069 J	NA	NA	0.15
Fluorene	**386**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.12 J	NA	NA	NA	ND	NA	NA	ND
Indeno(1,2,3-cd)pyrene	**5.6**	ND	0.29 J	NA	NA	NA	0.26 J	0.2 J	0.23 J	ND	ND	NA	NA	NA	NA	0.056 J	NA	NA	0.06 J	NA	NA	NA	0.054 J	NA	NA	NA	0.85	NA	NA	NA	0.062 J	NA	NA	0.093 J
Phenanthrene	**500**	0.19 J	0.51 J	NA	NA	NA	0.46 J	0.35 J	0.22 J	ND	ND	NA	NA	NA	NA	ND	NA	NA	0.027 J	NA	NA	NA	ND	NA	NA	NA	1.6	NA	NA	NA	0.036 J	NA	NA	0.072 J
Pyrene	**500**	0.25 J	0.71 J	NA	NA	NA	0.65 J	0.43 J	0.35 J	ND	ND	NA	NA	NA	NA	0.032 J	NA	NA	0.05 J	NA	NA	NA	0.031 J	NA	NA	NA	2.4	NA	NA	NA	0.051 J	NA	NA	0.12
Naphthalene	**12**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.042 J	NA	NA	NA	ND	NA	NA	ND
2-Methylnaphthalene	**--**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	0.023 J	NA	NA	NA	ND	NA	NA	ND
Metals - mg/kg																																
Aluminum	**--**	17100	14900	NA	NA	NA	16700 J-	14500	16000	6690	7480	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Arsenic	**16**	7.6	7.6	NA	NA	NA	8.1	9	7.5	6.6	4.1	NA	NA	NA	NA	6.61	NA	NA	5.94	6.36	11.6	7.97	**19.2**	NA	NA	NA	8.88	NA	NA	NA	15.6	NA	NA	5.39
Barium	**400**	72.4	70.2	NA	NA	NA	76.6 J	65.6	76.5	45.2	30.8	NA	NA	NA	NA	45.3	NA	NA	36	NA	NA	NA	43	NA	NA	NA	50.6	NA	NA	NA	41.6	NA	NA	44
Beryllium	**47**	0.71	0.67	NA	NA	NA	0.76	0.69	0.74	0.4	0.4	NA	NA	NA	NA	0.393	NA	NA	0.34	NA	NA	NA	0.479	NA	NA	NA	0.463	NA	NA	NA	0.324	NA	NA	0.431
Cadmium	**7.5**	0.73	0.68	NA	NA	NA	0.96	0.83	0.73	0.97	1.3	NA	NA	NA	NA	0.907	NA	NA	0.816	NA	NA	NA	1.52	NA	NA	NA	1.15	NA	NA	NA	1.87	NA	NA	0.68
Calcium	**--**	3440	8690	NA	NA	NA	5020 J-	11100	7480	8870 B	83500 B	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Chromium	**1500**	20.6	19.9	NA	NA	NA	21.4 J-	19	21.1	9.4 B	10.8 B	NA	NA	NA	NA	43.6	NA	NA	9.99	NA	NA	NA	10.4	NA	NA	NA	11.3	NA	NA	NA	9.05	NA	NA	10.6
Cobalt	**--**	10.6	11.1	NA	NA	NA	10.6	11.9	9.2	6.5	5.6	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Copper	**270**	39.2	29.6	NA	NA	NA	33.0 J-	33.1	22.4	23.4	27.7	NA	NA	NA	NA	36.3	NA	NA	24.7	NA	NA	NA	38.4	NA	NA	NA	25	NA	NA	NA	32.3	NA	NA	20.9
Iron	**--**	21600	21300	NA	NA	NA	22000 J-	22400	21500	14400	12700	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Lead	**450**	30.8	26.2	NA	NA	NA	39.9	26.4	27	7.0	8.6	NA	NA	NA	NA	13	NA	NA	9.23	NA	NA	NA	15.6	NA	NA	NA	10.8	NA	NA	NA	20.9	NA	NA	22
Magnesium	**--**	2980	5140	NA	NA	NA	3300 J-	4060	4130	2670 B	8290 B	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Manganese	**2000**	579 B	521 B	NA	NA	NA	483 J-	506 B	487 B	765 B	374 B	NA	NA	NA	NA	1130	NA	NA	445	NA	NA	NA	594	NA	NA	NA	297	NA	NA	NA	829	NA	NA	329
Mercury	**2.8**	0.08	0.059	NA	NA	NA	0.067	0.058	0.068	ND	0.0077 J	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Nickel	**130**	29.8	31.9	NA	NA	NA	35.2	41.1	27.2	27.5	24.1	NA	NA	NA	NA	29.8	NA	NA	25.5	NA	NA	NA	41.5	NA	NA	NA	33.6	NA	NA	NA	46	NA	NA	18.2
Potassium	**--**	2930	2680	NA	NA	NA	2710 J	2550	1910	1940	2130	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Selenium	**4**	ND	ND	NA	NA	NA	0.7 J	0.5 J	0.79 J	ND	ND	NA	NA	NA	NA	0.832 J	NA	NA	0.39 J	NA	NA	NA	0.76 J	NA	NA	NA	0.912 J	NA	NA	NA	0.552 J	NA	NA	0.569 J
Silver	**8.3**	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	0.271 J	NA	NA	ND	NA	NA	NA	0.154 J	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Sodium	**--**	77.4 J	85.2 J	NA	NA	NA	85.9 J	76.7 J	687	130 J	155 J	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Thallium	**--**	ND	0.57 J	NA	NA	NA	0.43 J	0.49 J	ND	ND	ND	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Vanadium	**--**	36	32.7	NA	NA	NA	37.4 J	34.2	35.2	19.7	17.1	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Zinc	**2480**	121	118	NA	NA	NA	137 J	132	102	81.6	70.4	NA	NA	NA	NA	75.9	NA	NA	72.6	NA	NA	NA	110	NA	NA	NA	98	NA	NA	NA	117	NA	NA	65.5
Organochlorine Pesticides [1] - mg/kg [3]																																
4,4'-DDD	**92**	ND	ND	NA	NA	NA	ND	ND	0.0048 J	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
4,4'-DDE	**17**	0.0038 J	0.0009 J	NA	NA	NA	0.0047	0.0082 J	0.15	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	0.00156 J	NA	NA	NA	ND	NA	NA	NA	0.00345	NA	NA	0.00255
4,4'-DDT	**47**	0.0023	ND	NA	NA	NA	0.0043 J	ND	0.09	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	0.00284 J	NA	NA	NA	ND	NA	NA	NA	0.00498	NA	NA	0.00411
Herbicides [1] - mg/kg																																
Herbicides	**--**	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
PCBs [1] - mg/kg																																
Total PCBs	**1**	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA	NA	0.273	NA	NA	0.0677	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Per- and Poly- fluoroalkyl Substances (PFAS) - ug/kg																																
Perfluorobutanoic Acid (PFBA)	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	0.044 J	NA	NA	NA	0.055 J	NA	NA	NA	0.031 J	NA	NA	NA	0.04 J	NA	NA	0.041 J
Perfluoroheptanoic acit (PFHpA)	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Perfluorooctanoic acit (PFOA)	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	0.074 J	NA	NA	NA	0.071 J	NA	NA	NA	ND	NA	NA	NA	0.07 J	NA	NA	0.058 J
Perfluorooctanesulfonic acid (PFOS)	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Perfluorononanoic acid (PFNA)	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
Total PFOA/PFOS	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	*0.074*	NA	NA	NA	*0.071*	NA	NA	NA	*ND*	NA	NA	NA	*0.07*	NA	NA	*0.058*
Total PFAs	**--**	*NA*	*NA*	*NA*	*NA*	*NA*	NA	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*ND*	*NA*	*NA*	*0.118*	*NA*	*NA*	*NA*	*0.126*	*NA*	*NA*	*NA*	*0.031*	*NA*	*NA*	*NA*	*0.11*	*NA*	*NA*	*0.099*

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC DER-10 Appendix 5 Allowable Constituent Levels for Imported Fill or Soil for a Commercial Site
3. Sample results were reported by the laboratory in micograms per kilogram (ug/kg) and converted to milligram per kilogram (mg/kg) for comparison to SCOs.

Definitions:

mg/kg = milligrams per kilogram.
ND = Parameter not detected above laboratory detection limit.
NA = Sample not analyzed for parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
J- = The analyte was positively identified; the associated numerical value is an estimated quantitiy that may be biased low.
B = Compound was found in Blank and Sample.

Exceeds DER-10 Commercial Use Import Criteria

ANALYTICAL REPORT

Lab Number:	L1923228
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Mike Lesakowski
Phone:	(716) 856-0599
Project Name:	MOOG SOIL CHARACTERIZATION SW
Project Number:	0400-017-001
Report Date:	06/12/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1923228-01	SW-VOC-1	SOIL	170 JAMISON ROAD SITE	05/30/19 08:45	05/31/19
L1923228-02	SW-VOC-2	SOIL	170 JAMISON ROAD SITE	05/30/19 09:20	05/31/19
L1923228-03	SW-VOC-3	SOIL	170 JAMISON ROAD SITE	05/30/19 09:40	05/31/19
L1923228-04	SW-COMP-1	SOIL	170 JAMISON ROAD SITE	05/30/19 10:00	05/31/19
L1923228-05	SW-VOC-4	SOIL	170 JAMISON ROAD SITE	05/30/19 10:30	05/31/19
L1923228-06	SW-VOC-5	SOIL	170 JAMISON ROAD SITE	05/30/19 10:45	05/31/19
L1923228-07	SW-COMP-2	SOIL	170 JAMISON ROAD SITE	05/30/19 10:50	05/31/19
L1923228-08	DP-VOC-1	SOIL	170 JAMISON ROAD SITE	05/30/19 11:00	05/31/19
L1923228-09	DP-VOC-2	SOIL	170 JAMISON ROAD SITE	05/30/19 11:15	05/31/19
L1923228-10	DP-VOC-3	SOIL	170 JAMISON ROAD SITE	05/30/19 11:40	05/31/19
L1923228-11	DP-COMP-1	SOIL	170 JAMISON ROAD SITE	05/30/19 11:50	05/31/19
L1923228-12	DP-VOC-4	SOIL	170 JAMISON ROAD SITE	05/30/19 12:10	05/31/19
L1923228-13	DP-VOC-5	SOIL	170 JAMISON ROAD SITE	05/30/19 12:25	05/31/19
L1923228-14	DP-VOC-6	SOIL	170 JAMISON ROAD SITE	05/30/19 12:40	05/31/19
L1923228-15	DP-COMP-2	SOIL	170 JAMISON ROAD SITE	05/30/19 12:50	05/31/19
L1923228-16	DP-VOC-7	SOIL	170 JAMISON ROAD SITE	05/30/19 13:00	05/31/19
L1923228-17	DP-VOC-8	SOIL	170 JAMISON ROAD SITE	05/30/19 13:20	05/31/19
L1923228-18	DP-VOC-9	SOIL	170 JAMISON ROAD SITE	05/30/19 13:40	05/31/19
L1923228-19	DP-COMP-3	SOIL	170 JAMISON ROAD SITE	05/30/19 13:50	05/31/19
L1923228-20	DP-VOC-10	SOIL	170 JAMISON ROAD SITE	05/30/19 14:00	05/31/19
L1923228-21	DP-VOC-11	SOIL	170 JAMISON ROAD SITE	05/30/19 14:20	05/31/19
L1923228-22	DP-COMP-4	SOIL	170 JAMISON ROAD SITE	05/30/19 14:30	05/31/19

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

1,4-Dioxane by 8270-SIM

L1923228-04, -07, -11, -15, -19 and -22: The sample has an elevated detection limit due to the dilution required by the sample matrix.

Perfluorinated Alkyl Acids by Isotope Dilution

L1923228-04, -07, -11, -15, -19, and -22: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
The WG1245296-3 LCSD recovery, associated with L1923228-04, -07, -11, -15, -19 and -22, is above the acceptance criteria for perfluorotetradecanoic acid (pfta) (135%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.
WG1246093-3: The continuing calibration standard, associated with L1923228 and QC, had the response for N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA) above of acceptance criteria. The associated samples were non-detect to the RL; therefore, no further action was taken.
WG1246093-2, -3, -4: The continuing calibration standard, associated with L1923228 and QC, had the response for the extracted internal standard Perfluoro[13C8]Octanesulfonamide (M8FOSA) outside the acceptance criteria for the method. The associated target analytes were within acceptance criteria; therefore, no further action was taken.
WG1246093-3: The continuing calibration standard, associated with L1923228 and QC, had the response for Perfluoroctanesulfonic Acid-Branched (br-PFOS) outside of acceptance criteria. The response for Perfluorooctanesulfonic Acid (PFOS) was within acceptance criteria; therefore, no further action was taken.

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

Case Narrative (continued)

Cyanide, Total

The WG1243644-2/-3 LCS/LCSD recoveries (49%/47%), associated with L1923228-04, -07, -11, -15, -19 and -22, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 06/12/19

ORGANICS

VOLATILES

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-01
Client ID: SW-VOC-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 08:45
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 11:12
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.7	2.2	1
1,1-Dichloroethane	1.9		ug/kg	0.94	0.14	1
Chloroform	ND		ug/kg	1.4	0.13	1
Carbon tetrachloride	ND		ug/kg	0.94	0.22	1
1,2-Dichloropropane	ND		ug/kg	0.94	0.12	1
Dibromochloromethane	ND		ug/kg	0.94	0.13	1
1,1,2-Trichloroethane	ND		ug/kg	0.94	0.25	1
Tetrachloroethene	ND		ug/kg	0.47	0.18	1
Chlorobenzene	ND		ug/kg	0.47	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.8	0.66	1
1,2-Dichloroethane	ND		ug/kg	0.94	0.24	1
1,1,1-Trichloroethane	0.42	J	ug/kg	0.47	0.16	1
Bromodichloromethane	ND		ug/kg	0.47	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.94	0.26	1
cis-1,3-Dichloropropene	ND		ug/kg	0.47	0.15	1
Bromoform	ND		ug/kg	3.8	0.23	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.47	0.16	1
Benzene	ND		ug/kg	0.47	0.16	1
Toluene	ND		ug/kg	0.94	0.51	1
Ethylbenzene	ND		ug/kg	0.94	0.13	1
Chloromethane	ND		ug/kg	3.8	0.88	1
Bromomethane	ND		ug/kg	1.9	0.55	1
Vinyl chloride	ND		ug/kg	0.94	0.32	1
Chloroethane	ND		ug/kg	1.9	0.43	1
1,1-Dichloroethene	ND		ug/kg	0.94	0.22	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	0.13	1
Trichloroethene	ND		ug/kg	0.47	0.13	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	0.14	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-01 Date Collected: 05/30/19 08:45

Client ID: SW-VOC-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.9	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	0.16	1
Methyl tert butyl ether	ND		ug/kg	1.9	0.19	1
p/m-Xylene	ND		ug/kg	1.9	0.53	1
o-Xylene	ND		ug/kg	0.94	0.27	1
cis-1,2-Dichloroethene	ND		ug/kg	0.94	0.16	1
Styrene	ND		ug/kg	0.94	0.18	1
Dichlorodifluoromethane	ND		ug/kg	9.4	0.86	1
Acetone	16		ug/kg	9.4	4.5	1
Carbon disulfide	ND		ug/kg	9.4	4.3	1
2-Butanone	ND		ug/kg	9.4	2.1	1
4-Methyl-2-pentanone	ND		ug/kg	9.4	1.2	1
2-Hexanone	ND		ug/kg	9.4	1.1	1
1,2-Dibromoethane	ND		ug/kg	0.94	0.26	1
n-Butylbenzene	ND		ug/kg	0.94	0.16	1
sec-Butylbenzene	ND		ug/kg	0.94	0.14	1
tert-Butylbenzene	ND		ug/kg	1.9	0.11	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	0.94	1
Isopropylbenzene	ND		ug/kg	0.94	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.94	0.10	1
Naphthalene	ND		ug/kg	3.8	0.61	1
n-Propylbenzene	ND		ug/kg	0.94	0.16	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	0.31	1
Methyl Acetate	ND		ug/kg	3.8	0.90	1
Cyclohexane	ND		ug/kg	9.4	0.51	1
Freon-113	0.81	J	ug/kg	3.8	0.65	1
Methyl cyclohexane	ND		ug/kg	3.8	0.57	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-02
Client ID: SW-VOC-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 09:20
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 11:37
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	2.1	1
1,1-Dichloroethane	ND		ug/kg	0.91	0.13	1
Chloroform	ND		ug/kg	1.4	0.13	1
Carbon tetrachloride	ND		ug/kg	0.91	0.21	1
1,2-Dichloropropane	ND		ug/kg	0.91	0.11	1
Dibromochloromethane	ND		ug/kg	0.91	0.13	1
1,1,2-Trichloroethane	ND		ug/kg	0.91	0.24	1
Tetrachloroethene	1.2		ug/kg	0.46	0.18	1
Chlorobenzene	ND		ug/kg	0.46	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.6	0.63	1
1,2-Dichloroethane	ND		ug/kg	0.91	0.23	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	0.15	1
Bromodichloromethane	ND		ug/kg	0.46	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.91	0.25	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	0.14	1
Bromoform	ND		ug/kg	3.6	0.22	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	0.15	1
Benzene	ND		ug/kg	0.46	0.15	1
Toluene	ND		ug/kg	0.91	0.50	1
Ethylbenzene	ND		ug/kg	0.91	0.13	1
Chloromethane	ND		ug/kg	3.6	0.85	1
Bromomethane	ND		ug/kg	1.8	0.53	1
Vinyl chloride	ND		ug/kg	0.91	0.31	1
Chloroethane	ND		ug/kg	1.8	0.41	1
1,1-Dichloroethene	ND		ug/kg	0.91	0.22	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	0.12	1
Trichloroethene	0.16	J	ug/kg	0.46	0.12	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	0.13	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-02 Date Collected: 05/30/19 09:20

Client ID: SW-VOC-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.8	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	0.16	1
Methyl tert butyl ether	ND		ug/kg	1.8	0.18	1
p/m-Xylene	ND		ug/kg	1.8	0.51	1
o-Xylene	ND		ug/kg	0.91	0.26	1
cis-1,2-Dichloroethene	ND		ug/kg	0.91	0.16	1
Styrene	ND		ug/kg	0.91	0.18	1
Dichlorodifluoromethane	ND		ug/kg	9.1	0.84	1
Acetone	21		ug/kg	9.1	4.4	1
Carbon disulfide	ND		ug/kg	9.1	4.2	1
2-Butanone	ND		ug/kg	9.1	2.0	1
4-Methyl-2-pentanone	ND		ug/kg	9.1	1.2	1
2-Hexanone	ND		ug/kg	9.1	1.1	1
1,2-Dibromoethane	ND		ug/kg	0.91	0.25	1
n-Butylbenzene	ND		ug/kg	0.91	0.15	1
sec-Butylbenzene	ND		ug/kg	0.91	0.13	1
tert-Butylbenzene	ND		ug/kg	1.8	0.11	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	0.91	1
Isopropylbenzene	ND		ug/kg	0.91	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.91	0.10	1
Naphthalene	ND		ug/kg	3.6	0.59	1
n-Propylbenzene	ND		ug/kg	0.91	0.16	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	0.25	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	0.30	1
Methyl Acetate	ND		ug/kg	3.6	0.87	1
Cyclohexane	ND		ug/kg	9.1	0.50	1
Freon-113	ND		ug/kg	3.6	0.63	1
Methyl cyclohexane	ND		ug/kg	3.6	0.55	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-03
Client ID: SW-VOC-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 09:40
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 12:03
Analyst: NLK
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.2	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.15	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.13	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.28	1
Tetrachloroethene	0.91		ug/kg	0.52	0.20	1
Chlorobenzene	ND		ug/kg	0.52	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.1	0.72	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.26	1
1,1,1-Trichloroethane	ND		ug/kg	0.52	0.17	1
Bromodichloromethane	ND		ug/kg	0.52	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.28	1
cis-1,3-Dichloropropene	ND		ug/kg	0.52	0.16	1
Bromoform	ND		ug/kg	4.1	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.52	0.17	1
Benzene	ND		ug/kg	0.52	0.17	1
Toluene	ND		ug/kg	1.0	0.56	1
Ethylbenzene	ND		ug/kg	1.0	0.14	1
Chloromethane	ND		ug/kg	4.1	0.96	1
Bromomethane	ND		ug/kg	2.1	0.60	1
Vinyl chloride	ND		ug/kg	1.0	0.34	1
Chloroethane	ND		ug/kg	2.1	0.46	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1
Trichloroethene	ND		ug/kg	0.52	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-03 Date Collected: 05/30/19 09:40

Client ID: SW-VOC-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.58	1
o-Xylene	ND		ug/kg	1.0	0.30	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.94	1
Acetone	5.6	J	ug/kg	10	5.0	1
Carbon disulfide	ND		ug/kg	10	4.7	1
2-Butanone	ND		ug/kg	10	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.29	1
n-Butylbenzene	ND		ug/kg	1.0	0.17	1
sec-Butylbenzene	ND		ug/kg	1.0	0.15	1
tert-Butylbenzene	ND		ug/kg	2.1	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	1.0	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
Naphthalene	ND		ug/kg	4.1	0.67	1
n-Propylbenzene	ND		ug/kg	1.0	0.18	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.28	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.34	1
Methyl Acetate	ND		ug/kg	4.1	0.98	1
Cyclohexane	ND		ug/kg	10	0.56	1
Freon-113	ND		ug/kg	4.1	0.71	1
Methyl cyclohexane	ND		ug/kg	4.1	0.62	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	106		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-05
Client ID: SW-VOC-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 12:29
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.3	3.8	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.24	1
Chloroform	ND		ug/kg	2.5	0.23	1
Carbon tetrachloride	ND		ug/kg	1.7	0.38	1
1,2-Dichloropropane	ND		ug/kg	1.7	0.21	1
Dibromochloromethane	ND		ug/kg	1.7	0.23	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.44	1
Tetrachloroethene	ND		ug/kg	0.83	0.33	1
Chlorobenzene	ND		ug/kg	0.83	0.21	1
Trichlorofluoromethane	ND		ug/kg	6.7	1.2	1
1,2-Dichloroethane	ND		ug/kg	1.7	0.43	1
1,1,1-Trichloroethane	ND		ug/kg	0.83	0.28	1
Bromodichloromethane	ND		ug/kg	0.83	0.18	1
trans-1,3-Dichloropropene	ND		ug/kg	1.7	0.46	1
cis-1,3-Dichloropropene	ND		ug/kg	0.83	0.26	1
Bromoform	ND		ug/kg	6.7	0.41	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.83	0.28	1
Benzene	ND		ug/kg	0.83	0.28	1
Toluene	ND		ug/kg	1.7	0.90	1
Ethylbenzene	ND		ug/kg	1.7	0.24	1
Chloromethane	ND		ug/kg	6.7	1.6	1
Bromomethane	ND		ug/kg	3.3	0.97	1
Vinyl chloride	ND		ug/kg	1.7	0.56	1
Chloroethane	ND		ug/kg	3.3	0.75	1
1,1-Dichloroethene	ND		ug/kg	1.7	0.40	1
trans-1,2-Dichloroethene	ND		ug/kg	2.5	0.23	1
Trichloroethene	ND		ug/kg	0.83	0.23	1
1,2-Dichlorobenzene	ND		ug/kg	3.3	0.24	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-05 Date Collected: 05/30/19 10:30

Client ID: SW-VOC-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.3	0.25	1
1,4-Dichlorobenzene	ND		ug/kg	3.3	0.28	1
Methyl tert butyl ether	ND		ug/kg	3.3	0.34	1
p/m-Xylene	ND		ug/kg	3.3	0.93	1
o-Xylene	ND		ug/kg	1.7	0.48	1
cis-1,2-Dichloroethene	ND		ug/kg	1.7	0.29	1
Styrene	ND		ug/kg	1.7	0.33	1
Dichlorodifluoromethane	ND		ug/kg	17	1.5	1
Acetone	ND		ug/kg	17	8.0	1
Carbon disulfide	ND		ug/kg	17	7.6	1
2-Butanone	ND		ug/kg	17	3.7	1
4-Methyl-2-pentanone	ND		ug/kg	17	2.1	1
2-Hexanone	ND		ug/kg	17	2.0	1
1,2-Dibromoethane	ND		ug/kg	1.7	0.46	1
n-Butylbenzene	ND		ug/kg	1.7	0.28	1
sec-Butylbenzene	ND		ug/kg	1.7	0.24	1
tert-Butylbenzene	ND		ug/kg	3.3	0.20	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	1.7	1
Isopropylbenzene	ND		ug/kg	1.7	0.18	1
p-Isopropyltoluene	ND		ug/kg	1.7	0.18	1
Naphthalene	ND		ug/kg	6.7	1.1	1
n-Propylbenzene	ND		ug/kg	1.7	0.28	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.3	0.45	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.3	0.32	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.3	0.56	1
Methyl Acetate	ND		ug/kg	6.7	1.6	1
Cyclohexane	ND		ug/kg	17	0.91	1
Freon-113	ND		ug/kg	6.7	1.2	1
Methyl cyclohexane	ND		ug/kg	6.7	1.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-06
Client ID: SW-VOC-5
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:45
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 12:55
Analyst: NLK
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.7	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	0.24	J	ug/kg	0.57	0.22	1
Chlorobenzene	ND		ug/kg	0.57	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.80	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.57	0.19	1
Bromodichloromethane	ND		ug/kg	0.57	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	0.19	1
Benzene	ND		ug/kg	0.57	0.19	1
Toluene	ND		ug/kg	1.1	0.62	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.57	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.16	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-06 Date Collected: 05/30/19 10:45

Client ID: SW-VOC-5 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.64	1
o-Xylene	ND		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	11		ug/kg	11	5.5	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.5	1
2-Hexanone	ND		ug/kg	11	1.4	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.17	1
tert-Butylbenzene	ND		ug/kg	2.3	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
Naphthalene	ND		ug/kg	4.6	0.74	1
n-Propylbenzene	ND		ug/kg	1.1	0.20	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	ND		ug/kg	11	0.62	1
Freon-113	ND		ug/kg	4.6	0.79	1
Methyl cyclohexane	ND		ug/kg	4.6	0.69	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	106		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-08
Client ID: DP-VOC-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 13:21
Analyst: NLK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	2.1	1
1,1-Dichloroethane	ND		ug/kg	0.93	0.13	1
Chloroform	ND		ug/kg	1.4	0.13	1
Carbon tetrachloride	ND		ug/kg	0.93	0.21	1
1,2-Dichloropropane	ND		ug/kg	0.93	0.12	1
Dibromochloromethane	ND		ug/kg	0.93	0.13	1
1,1,2-Trichloroethane	ND		ug/kg	0.93	0.25	1
Tetrachloroethene	ND		ug/kg	0.46	0.18	1
Chlorobenzene	ND		ug/kg	0.46	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.7	0.64	1
1,2-Dichloroethane	ND		ug/kg	0.93	0.24	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	0.16	1
Bromodichloromethane	ND		ug/kg	0.46	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.93	0.25	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	0.15	1
Bromoform	ND		ug/kg	3.7	0.23	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	0.15	1
Benzene	ND		ug/kg	0.46	0.15	1
Toluene	ND		ug/kg	0.93	0.50	1
Ethylbenzene	ND		ug/kg	0.93	0.13	1
Chloromethane	ND		ug/kg	3.7	0.86	1
Bromomethane	ND		ug/kg	1.8	0.54	1
Vinyl chloride	ND		ug/kg	0.93	0.31	1
Chloroethane	ND		ug/kg	1.8	0.42	1
1,1-Dichloroethene	ND		ug/kg	0.93	0.22	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	0.13	1
Trichloroethene	ND		ug/kg	0.46	0.13	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	0.13	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-08 Date Collected: 05/30/19 11:00

Client ID: DP-VOC-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.8	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	0.16	1
Methyl tert butyl ether	ND		ug/kg	1.8	0.19	1
p/m-Xylene	ND		ug/kg	1.8	0.52	1
o-Xylene	ND		ug/kg	0.93	0.27	1
cis-1,2-Dichloroethene	ND		ug/kg	0.93	0.16	1
Styrene	ND		ug/kg	0.93	0.18	1
Dichlorodifluoromethane	ND		ug/kg	9.3	0.85	1
Acetone	ND		ug/kg	9.3	4.5	1
Carbon disulfide	ND		ug/kg	9.3	4.2	1
2-Butanone	ND		ug/kg	9.3	2.1	1
4-Methyl-2-pentanone	ND		ug/kg	9.3	1.2	1
2-Hexanone	ND		ug/kg	9.3	1.1	1
1,2-Dibromoethane	ND		ug/kg	0.93	0.26	1
n-Butylbenzene	ND		ug/kg	0.93	0.16	1
sec-Butylbenzene	ND		ug/kg	0.93	0.14	1
tert-Butylbenzene	ND		ug/kg	1.8	0.11	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.8	0.93	1
Isopropylbenzene	ND		ug/kg	0.93	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.93	0.10	1
Naphthalene	ND		ug/kg	3.7	0.60	1
n-Propylbenzene	ND		ug/kg	0.93	0.16	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	0.25	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	0.31	1
Methyl Acetate	ND		ug/kg	3.7	0.88	1
Cyclohexane	ND		ug/kg	9.3	0.50	1
Freon-113	ND		ug/kg	3.7	0.64	1
Methyl cyclohexane	ND		ug/kg	3.7	0.56	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-09
Client ID: DP-VOC-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:15
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 13:47
Analyst: AD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.15	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.0	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.13	1
Dibromochloromethane	ND		ug/kg	1.0	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.28	1
Tetrachloroethene	ND		ug/kg	0.53	0.21	1
Chlorobenzene	ND		ug/kg	0.53	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.2	0.73	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	0.18	1
Bromodichloromethane	ND		ug/kg	0.53	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.29	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	0.17	1
Bromoform	ND		ug/kg	4.2	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	0.18	1
Benzene	ND		ug/kg	0.53	0.18	1
Toluene	ND		ug/kg	1.0	0.57	1
Ethylbenzene	ND		ug/kg	1.0	0.15	1
Chloromethane	ND		ug/kg	4.2	0.98	1
Bromomethane	ND		ug/kg	2.1	0.61	1
Vinyl chloride	ND		ug/kg	1.0	0.35	1
Chloroethane	ND		ug/kg	2.1	0.48	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.14	1
Trichloroethene	ND		ug/kg	0.53	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-09 Date Collected: 05/30/19 11:15

Client ID: DP-VOC-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.59	1
o-Xylene	ND		ug/kg	1.0	0.31	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.21	1
Dichlorodifluoromethane	ND		ug/kg	10	0.96	1
Acetone	15		ug/kg	10	5.1	1
Carbon disulfide	ND		ug/kg	10	4.8	1
2-Butanone	ND		ug/kg	10	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.29	1
n-Butylbenzene	ND		ug/kg	1.0	0.18	1
sec-Butylbenzene	ND		ug/kg	1.0	0.15	1
tert-Butylbenzene	ND		ug/kg	2.1	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.0	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
Naphthalene	ND		ug/kg	4.2	0.68	1
n-Propylbenzene	ND		ug/kg	1.0	0.18	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.35	1
Methyl Acetate	ND		ug/kg	4.2	1.0	1
Cyclohexane	ND		ug/kg	10	0.57	1
Freon-113	ND		ug/kg	4.2	0.73	1
Methyl cyclohexane	ND		ug/kg	4.2	0.64	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-10
Client ID: DP-VOC-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:40
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 15:19
Analyst: PK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.7	3.5	1
1,1-Dichloroethane	ND		ug/kg	1.5	0.22	1
Chloroform	ND		ug/kg	2.3	0.22	1
Carbon tetrachloride	ND		ug/kg	1.5	0.35	1
1,2-Dichloropropane	ND		ug/kg	1.5	0.19	1
Dibromochloromethane	ND		ug/kg	1.5	0.22	1
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.41	1
Tetrachloroethene	ND		ug/kg	0.77	0.30	1
Chlorobenzene	ND		ug/kg	0.77	0.20	1
Trichlorofluoromethane	ND		ug/kg	6.2	1.1	1
1,2-Dichloroethane	ND		ug/kg	1.5	0.40	1
1,1,1-Trichloroethane	ND		ug/kg	0.77	0.26	1
Bromodichloromethane	ND		ug/kg	0.77	0.17	1
trans-1,3-Dichloropropene	ND		ug/kg	1.5	0.42	1
cis-1,3-Dichloropropene	ND		ug/kg	0.77	0.24	1
Bromoform	ND		ug/kg	6.2	0.38	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.77	0.26	1
Benzene	ND		ug/kg	0.77	0.26	1
Toluene	ND		ug/kg	1.5	0.84	1
Ethylbenzene	ND		ug/kg	1.5	0.22	1
Chloromethane	ND		ug/kg	6.2	1.4	1
Bromomethane	ND		ug/kg	3.1	0.90	1
Vinyl chloride	ND		ug/kg	1.5	0.52	1
Chloroethane	ND		ug/kg	3.1	0.70	1
1,1-Dichloroethene	ND		ug/kg	1.5	0.37	1
trans-1,2-Dichloroethene	ND		ug/kg	2.3	0.21	1
Trichloroethene	ND		ug/kg	0.77	0.21	1
1,2-Dichlorobenzene	ND		ug/kg	3.1	0.22	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-10 Date Collected: 05/30/19 11:40

Client ID: DP-VOC-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.1	0.23	1
1,4-Dichlorobenzene	ND		ug/kg	3.1	0.26	1
Methyl tert butyl ether	ND		ug/kg	3.1	0.31	1
p/m-Xylene	ND		ug/kg	3.1	0.86	1
o-Xylene	ND		ug/kg	1.5	0.45	1
cis-1,2-Dichloroethene	ND		ug/kg	1.5	0.27	1
Styrene	ND		ug/kg	1.5	0.30	1
Dichlorodifluoromethane	ND		ug/kg	15	1.4	1
Acetone	ND		ug/kg	15	7.4	1
Carbon disulfide	ND		ug/kg	15	7.0	1
2-Butanone	ND		ug/kg	15	3.4	1
4-Methyl-2-pentanone	ND		ug/kg	15	2.0	1
2-Hexanone	ND		ug/kg	15	1.8	1
1,2-Dibromoethane	ND		ug/kg	1.5	0.43	1
n-Butylbenzene	ND		ug/kg	1.5	0.26	1
sec-Butylbenzene	ND		ug/kg	1.5	0.22	1
tert-Butylbenzene	ND		ug/kg	3.1	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.6	1.5	1
Isopropylbenzene	ND		ug/kg	1.5	0.17	1
p-Isopropyltoluene	ND		ug/kg	1.5	0.17	1
Naphthalene	ND		ug/kg	6.2	1.0	1
n-Propylbenzene	ND		ug/kg	1.5	0.26	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.1	0.42	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.1	0.30	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.1	0.52	1
Methyl Acetate	ND		ug/kg	6.2	1.5	1
Cyclohexane	ND		ug/kg	15	0.84	1
Freon-113	ND		ug/kg	6.2	1.1	1
Methyl cyclohexane	ND		ug/kg	6.2	0.93	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	103		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-12
Client ID: DP-VOC-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:10
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 14:13
Analyst: AD
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.3	2.9	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.9	0.18	1
Carbon tetrachloride	ND		ug/kg	1.2	0.29	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.16	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.34	1
Tetrachloroethene	ND		ug/kg	0.63	0.25	1
Chlorobenzene	ND		ug/kg	0.63	0.16	1
Trichlorofluoromethane	ND		ug/kg	5.0	0.87	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.63	0.21	1
Bromodichloromethane	ND		ug/kg	0.63	0.14	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.63	0.20	1
Bromoform	ND		ug/kg	5.0	0.31	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.63	0.21	1
Benzene	ND		ug/kg	0.63	0.21	1
Toluene	ND		ug/kg	1.2	0.68	1
Ethylbenzene	ND		ug/kg	1.2	0.18	1
Chloromethane	ND		ug/kg	5.0	1.2	1
Bromomethane	ND		ug/kg	2.5	0.73	1
Vinyl chloride	ND		ug/kg	1.2	0.42	1
Chloroethane	ND		ug/kg	2.5	0.57	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.17	1
Trichloroethene	ND		ug/kg	0.63	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.18	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-12 Date Collected: 05/30/19 12:10

Client ID: DP-VOC-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.25	1
p/m-Xylene	ND		ug/kg	2.5	0.70	1
o-Xylene	ND		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.25	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	12		ug/kg	12	6.0	1
Carbon disulfide	ND		ug/kg	12	5.7	1
2-Butanone	ND		ug/kg	12	2.8	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.5	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.35	1
n-Butylbenzene	ND		ug/kg	1.2	0.21	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
tert-Butylbenzene	ND		ug/kg	2.5	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.8	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.14	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.14	1
Naphthalene	ND		ug/kg	5.0	0.82	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.34	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	0.24	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.5	0.42	1
Methyl Acetate	ND		ug/kg	5.0	1.2	1
Cyclohexane	ND		ug/kg	12	0.68	1
Freon-113	ND		ug/kg	5.0	0.87	1
Methyl cyclohexane	ND		ug/kg	5.0	0.76	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	105		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-13
Client ID: DP-VOC-5
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:25
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 14:39
Analyst: AD
Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.7	4.0	1
1,1-Dichloroethane	ND		ug/kg	1.7	0.25	1
Chloroform	ND		ug/kg	2.6	0.24	1
Carbon tetrachloride	ND		ug/kg	1.7	0.40	1
1,2-Dichloropropane	ND		ug/kg	1.7	0.22	1
Dibromochloromethane	ND		ug/kg	1.7	0.24	1
1,1,2-Trichloroethane	ND		ug/kg	1.7	0.46	1
Tetrachloroethene	ND		ug/kg	0.87	0.34	1
Chlorobenzene	ND		ug/kg	0.87	0.22	1
Trichlorofluoromethane	ND		ug/kg	7.0	1.2	1
1,2-Dichloroethane	ND		ug/kg	1.7	0.45	1
1,1,1-Trichloroethane	ND		ug/kg	0.87	0.29	1
Bromodichloromethane	ND		ug/kg	0.87	0.19	1
trans-1,3-Dichloropropene	ND		ug/kg	1.7	0.48	1
cis-1,3-Dichloropropene	ND		ug/kg	0.87	0.28	1
Bromoform	ND		ug/kg	7.0	0.43	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.87	0.29	1
Benzene	ND		ug/kg	0.87	0.29	1
Toluene	ND		ug/kg	1.7	0.94	1
Ethylbenzene	ND		ug/kg	1.7	0.24	1
Chloromethane	ND		ug/kg	7.0	1.6	1
Bromomethane	ND		ug/kg	3.5	1.0	1
Vinyl chloride	ND		ug/kg	1.7	0.58	1
Chloroethane	ND		ug/kg	3.5	0.79	1
1,1-Dichloroethene	ND		ug/kg	1.7	0.41	1
trans-1,2-Dichloroethene	ND		ug/kg	2.6	0.24	1
Trichloroethene	ND		ug/kg	0.87	0.24	1
1,2-Dichlorobenzene	ND		ug/kg	3.5	0.25	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-13 Date Collected: 05/30/19 12:25

Client ID: DP-VOC-5 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.5	0.26	1
1,4-Dichlorobenzene	ND		ug/kg	3.5	0.30	1
Methyl tert butyl ether	ND		ug/kg	3.5	0.35	1
p/m-Xylene	ND		ug/kg	3.5	0.97	1
o-Xylene	ND		ug/kg	1.7	0.51	1
cis-1,2-Dichloroethene	ND		ug/kg	1.7	0.30	1
Styrene	ND		ug/kg	1.7	0.34	1
Dichlorodifluoromethane	ND		ug/kg	17	1.6	1
Acetone	ND		ug/kg	17	8.4	1
Carbon disulfide	ND		ug/kg	17	7.9	1
2-Butanone	ND		ug/kg	17	3.9	1
4-Methyl-2-pentanone	ND		ug/kg	17	2.2	1
2-Hexanone	ND		ug/kg	17	2.0	1
1,2-Dibromoethane	ND		ug/kg	1.7	0.48	1
n-Butylbenzene	ND		ug/kg	1.7	0.29	1
sec-Butylbenzene	ND		ug/kg	1.7	0.25	1
tert-Butylbenzene	ND		ug/kg	3.5	0.20	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.2	1.7	1
Isopropylbenzene	ND		ug/kg	1.7	0.19	1
p-Isopropyltoluene	ND		ug/kg	1.7	0.19	1
Naphthalene	ND		ug/kg	7.0	1.1	1
n-Propylbenzene	ND		ug/kg	1.7	0.30	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.5	0.47	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.5	0.34	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.5	0.58	1
Methyl Acetate	ND		ug/kg	7.0	1.6	1
Cyclohexane	ND		ug/kg	17	0.95	1
Freon-113	ND		ug/kg	7.0	1.2	1
Methyl cyclohexane	ND		ug/kg	7.0	1.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	105		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-14
Client ID: DP-VOC-6
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:40
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 15:05
Analyst: AD
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	2.3	1
1,1-Dichloroethane	ND		ug/kg	0.99	0.14	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	0.99	0.23	1
1,2-Dichloropropane	ND		ug/kg	0.99	0.12	1
Dibromochloromethane	ND		ug/kg	0.99	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	0.99	0.26	1
Tetrachloroethene	ND		ug/kg	0.49	0.19	1
Chlorobenzene	ND		ug/kg	0.49	0.12	1
Trichlorofluoromethane	ND		ug/kg	4.0	0.69	1
1,2-Dichloroethane	ND		ug/kg	0.99	0.25	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	0.16	1
Bromodichloromethane	ND		ug/kg	0.49	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	0.99	0.27	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	0.16	1
Bromoform	ND		ug/kg	4.0	0.24	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	0.16	1
Benzene	ND		ug/kg	0.49	0.16	1
Toluene	ND		ug/kg	0.99	0.54	1
Ethylbenzene	ND		ug/kg	0.99	0.14	1
Chloromethane	ND		ug/kg	4.0	0.92	1
Bromomethane	ND		ug/kg	2.0	0.57	1
Vinyl chloride	ND		ug/kg	0.99	0.33	1
Chloroethane	ND		ug/kg	2.0	0.45	1
1,1-Dichloroethene	ND		ug/kg	0.99	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1
Trichloroethene	ND		ug/kg	0.49	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-14 Date Collected: 05/30/19 12:40

Client ID: DP-VOC-6 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	ND		ug/kg	2.0	0.55	1
o-Xylene	ND		ug/kg	0.99	0.29	1
cis-1,2-Dichloroethene	ND		ug/kg	0.99	0.17	1
Styrene	ND		ug/kg	0.99	0.19	1
Dichlorodifluoromethane	ND		ug/kg	9.9	0.90	1
Acetone	120		ug/kg	9.9	4.8	1
Carbon disulfide	ND		ug/kg	9.9	4.5	1
2-Butanone	16		ug/kg	9.9	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	9.9	1.3	1
2-Hexanone	ND		ug/kg	9.9	1.2	1
1,2-Dibromoethane	ND		ug/kg	0.99	0.28	1
n-Butylbenzene	ND		ug/kg	0.99	0.16	1
sec-Butylbenzene	ND		ug/kg	0.99	0.14	1
tert-Butylbenzene	ND		ug/kg	2.0	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	0.98	1
Isopropylbenzene	ND		ug/kg	0.99	0.11	1
p-Isopropyltoluene	ND		ug/kg	0.99	0.11	1
Naphthalene	ND		ug/kg	4.0	0.64	1
n-Propylbenzene	ND		ug/kg	0.99	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33	1
Methyl Acetate	ND		ug/kg	4.0	0.94	1
Cyclohexane	ND		ug/kg	9.9	0.54	1
Freon-113	ND		ug/kg	4.0	0.68	1
Methyl cyclohexane	ND		ug/kg	4.0	0.60	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	106		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-16
Client ID: DP-VOC-7
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 13:12
Analyst: PK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	9.8	4.5	1
1,1-Dichloroethane	ND		ug/kg	2.0	0.28	1
Chloroform	ND		ug/kg	2.9	0.27	1
Carbon tetrachloride	ND		ug/kg	2.0	0.45	1
1,2-Dichloropropane	ND		ug/kg	2.0	0.24	1
Dibromochloromethane	ND		ug/kg	2.0	0.27	1
1,1,2-Trichloroethane	ND		ug/kg	2.0	0.52	1
Tetrachloroethene	ND		ug/kg	0.98	0.38	1
Chlorobenzene	ND		ug/kg	0.98	0.25	1
Trichlorofluoromethane	ND		ug/kg	7.8	1.4	1
1,2-Dichloroethane	ND		ug/kg	2.0	0.50	1
1,1,1-Trichloroethane	ND		ug/kg	0.98	0.33	1
Bromodichloromethane	ND		ug/kg	0.98	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	2.0	0.53	1
cis-1,3-Dichloropropene	ND		ug/kg	0.98	0.31	1
Bromoform	ND		ug/kg	7.8	0.48	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.98	0.32	1
Benzene	ND		ug/kg	0.98	0.32	1
Toluene	ND		ug/kg	2.0	1.1	1
Ethylbenzene	ND		ug/kg	2.0	0.28	1
Chloromethane	ND		ug/kg	7.8	1.8	1
Bromomethane	ND		ug/kg	3.9	1.1	1
Vinyl chloride	ND		ug/kg	2.0	0.66	1
Chloroethane	ND		ug/kg	3.9	0.88	1
1,1-Dichloroethene	ND		ug/kg	2.0	0.46	1
trans-1,2-Dichloroethene	ND		ug/kg	2.9	0.27	1
Trichloroethene	ND		ug/kg	0.98	0.27	1
1,2-Dichlorobenzene	ND		ug/kg	3.9	0.28	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-16 Date Collected: 05/30/19 13:00

Client ID: DP-VOC-7 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.9	0.29	1
1,4-Dichlorobenzene	ND		ug/kg	3.9	0.33	1
Methyl tert butyl ether	ND		ug/kg	3.9	0.39	1
p/m-Xylene	ND		ug/kg	3.9	1.1	1
o-Xylene	ND		ug/kg	2.0	0.57	1
cis-1,2-Dichloroethene	ND		ug/kg	2.0	0.34	1
Styrene	ND		ug/kg	2.0	0.38	1
Dichlorodifluoromethane	ND		ug/kg	20	1.8	1
Acetone	17	J	ug/kg	20	9.4	1
Carbon disulfide	ND		ug/kg	20	8.9	1
2-Butanone	ND		ug/kg	20	4.3	1
4-Methyl-2-pentanone	ND		ug/kg	20	2.5	1
2-Hexanone	ND		ug/kg	20	2.3	1
1,2-Dibromoethane	ND		ug/kg	2.0	0.54	1
n-Butylbenzene	ND		ug/kg	2.0	0.33	1
sec-Butylbenzene	ND		ug/kg	2.0	0.28	1
tert-Butylbenzene	ND		ug/kg	3.9	0.23	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.9	2.0	1
Isopropylbenzene	ND		ug/kg	2.0	0.21	1
p-Isopropyltoluene	ND		ug/kg	2.0	0.21	1
Naphthalene	ND		ug/kg	7.8	1.3	1
n-Propylbenzene	ND		ug/kg	2.0	0.33	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.9	0.53	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.9	0.38	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.9	0.65	1
Methyl Acetate	ND		ug/kg	7.8	1.8	1
Cyclohexane	ND		ug/kg	20	1.1	1
Freon-113	ND		ug/kg	7.8	1.4	1
Methyl cyclohexane	ND		ug/kg	7.8	1.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	101		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-17
Client ID: DP-VOC-8
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:20
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 13:38
Analyst: PK
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	8.0	3.6	1
1,1-Dichloroethane	ND		ug/kg	1.6	0.23	1
Chloroform	ND		ug/kg	2.4	0.22	1
Carbon tetrachloride	ND		ug/kg	1.6	0.36	1
1,2-Dichloropropane	ND		ug/kg	1.6	0.20	1
Dibromochloromethane	ND		ug/kg	1.6	0.22	1
1,1,2-Trichloroethane	ND		ug/kg	1.6	0.42	1
Tetrachloroethene	ND		ug/kg	0.80	0.31	1
Chlorobenzene	ND		ug/kg	0.80	0.20	1
Trichlorofluoromethane	ND		ug/kg	6.4	1.1	1
1,2-Dichloroethane	ND		ug/kg	1.6	0.41	1
1,1,1-Trichloroethane	ND		ug/kg	0.80	0.26	1
Bromodichloromethane	ND		ug/kg	0.80	0.17	1
trans-1,3-Dichloropropene	ND		ug/kg	1.6	0.43	1
cis-1,3-Dichloropropene	ND		ug/kg	0.80	0.25	1
Bromoform	ND		ug/kg	6.4	0.39	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.80	0.26	1
Benzene	ND		ug/kg	0.80	0.26	1
Toluene	ND		ug/kg	1.6	0.86	1
Ethylbenzene	ND		ug/kg	1.6	0.22	1
Chloromethane	ND		ug/kg	6.4	1.5	1
Bromomethane	ND		ug/kg	3.2	0.92	1
Vinyl chloride	ND		ug/kg	1.6	0.53	1
Chloroethane	ND		ug/kg	3.2	0.72	1
1,1-Dichloroethene	ND		ug/kg	1.6	0.38	1
trans-1,2-Dichloroethene	ND		ug/kg	2.4	0.22	1
Trichloroethene	ND		ug/kg	0.80	0.22	1
1,2-Dichlorobenzene	ND		ug/kg	3.2	0.23	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-17 Date Collected: 05/30/19 13:20

Client ID: DP-VOC-8 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.2	0.24	1
1,4-Dichlorobenzene	ND		ug/kg	3.2	0.27	1
Methyl tert butyl ether	ND		ug/kg	3.2	0.32	1
p/m-Xylene	ND		ug/kg	3.2	0.89	1
o-Xylene	ND		ug/kg	1.6	0.46	1
cis-1,2-Dichloroethene	ND		ug/kg	1.6	0.28	1
Styrene	ND		ug/kg	1.6	0.31	1
Dichlorodifluoromethane	ND		ug/kg	16	1.4	1
Acetone	10	J	ug/kg	16	7.6	1
Carbon disulfide	ND		ug/kg	16	7.2	1
2-Butanone	ND		ug/kg	16	3.5	1
4-Methyl-2-pentanone	ND		ug/kg	16	2.0	1
2-Hexanone	ND		ug/kg	16	1.9	1
1,2-Dibromoethane	ND		ug/kg	1.6	0.44	1
n-Butylbenzene	ND		ug/kg	1.6	0.26	1
sec-Butylbenzene	ND		ug/kg	1.6	0.23	1
tert-Butylbenzene	ND		ug/kg	3.2	0.19	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.8	1.6	1
Isopropylbenzene	ND		ug/kg	1.6	0.17	1
p-Isopropyltoluene	ND		ug/kg	1.6	0.17	1
Naphthalene	ND		ug/kg	6.4	1.0	1
n-Propylbenzene	ND		ug/kg	1.6	0.27	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.2	0.43	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	0.31	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.2	0.53	1
Methyl Acetate	ND		ug/kg	6.4	1.5	1
Cyclohexane	ND		ug/kg	16	0.86	1
Freon-113	ND		ug/kg	6.4	1.1	1
Methyl cyclohexane	ND		ug/kg	6.4	0.96	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	104		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-18
Client ID: DP-VOC-9
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:40
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 14:03
Analyst: PK
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	11	5.1	1
1,1-Dichloroethane	ND		ug/kg	2.2	0.32	1
Chloroform	ND		ug/kg	3.4	0.31	1
Carbon tetrachloride	ND		ug/kg	2.2	0.51	1
1,2-Dichloropropane	ND		ug/kg	2.2	0.28	1
Dibromochloromethane	ND		ug/kg	2.2	0.31	1
1,1,2-Trichloroethane	ND		ug/kg	2.2	0.60	1
Tetrachloroethene	ND		ug/kg	1.1	0.44	1
Chlorobenzene	ND		ug/kg	1.1	0.28	1
Trichlorofluoromethane	ND		ug/kg	9.0	1.6	1
1,2-Dichloroethane	ND		ug/kg	2.2	0.58	1
1,1,1-Trichloroethane	ND		ug/kg	1.1	0.37	1
Bromodichloromethane	ND		ug/kg	1.1	0.24	1
trans-1,3-Dichloropropene	ND		ug/kg	2.2	0.61	1
cis-1,3-Dichloropropene	ND		ug/kg	1.1	0.35	1
Bromoform	ND		ug/kg	9.0	0.55	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.1	0.37	1
Benzene	ND		ug/kg	1.1	0.37	1
Toluene	ND		ug/kg	2.2	1.2	1
Ethylbenzene	ND		ug/kg	2.2	0.32	1
Chloromethane	ND		ug/kg	9.0	2.1	1
Bromomethane	ND		ug/kg	4.5	1.3	1
Vinyl chloride	ND		ug/kg	2.2	0.75	1
Chloroethane	ND		ug/kg	4.5	1.0	1
1,1-Dichloroethene	ND		ug/kg	2.2	0.53	1
trans-1,2-Dichloroethene	ND		ug/kg	3.4	0.31	1
Trichloroethene	ND		ug/kg	1.1	0.31	1
1,2-Dichlorobenzene	ND		ug/kg	4.5	0.32	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-18 Date Collected: 05/30/19 13:40

Client ID: DP-VOC-9 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	4.5	0.33	1
1,4-Dichlorobenzene	ND		ug/kg	4.5	0.38	1
Methyl tert butyl ether	ND		ug/kg	4.5	0.45	1
p/m-Xylene	ND		ug/kg	4.5	1.2	1
o-Xylene	ND		ug/kg	2.2	0.65	1
cis-1,2-Dichloroethene	ND		ug/kg	2.2	0.39	1
Styrene	ND		ug/kg	2.2	0.44	1
Dichlorodifluoromethane	ND		ug/kg	22	2.0	1
Acetone	ND		ug/kg	22	11.	1
Carbon disulfide	ND		ug/kg	22	10.	1
2-Butanone	ND		ug/kg	22	5.0	1
4-Methyl-2-pentanone	ND		ug/kg	22	2.9	1
2-Hexanone	ND		ug/kg	22	2.6	1
1,2-Dibromoethane	ND		ug/kg	2.2	0.62	1
n-Butylbenzene	ND		ug/kg	2.2	0.37	1
sec-Butylbenzene	ND		ug/kg	2.2	0.33	1
tert-Butylbenzene	ND		ug/kg	4.5	0.26	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.7	2.2	1
Isopropylbenzene	ND		ug/kg	2.2	0.24	1
p-Isopropyltoluene	ND		ug/kg	2.2	0.24	1
Naphthalene	ND		ug/kg	9.0	1.4	1
n-Propylbenzene	ND		ug/kg	2.2	0.38	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.5	0.61	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.5	0.43	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.5	0.75	1
Methyl Acetate	ND		ug/kg	9.0	2.1	1
Cyclohexane	ND		ug/kg	22	1.2	1
Freon-113	ND		ug/kg	9.0	1.6	1
Methyl cyclohexane	ND		ug/kg	9.0	1.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	100		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-20
Client ID: DP-VOC-10
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 14:28
Analyst: PK
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.2	3.3	1
1,1-Dichloroethane	ND		ug/kg	1.4	0.21	1
Chloroform	ND		ug/kg	2.2	0.20	1
Carbon tetrachloride	ND		ug/kg	1.4	0.33	1
1,2-Dichloropropane	ND		ug/kg	1.4	0.18	1
Dibromochloromethane	ND		ug/kg	1.4	0.20	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	0.38	1
Tetrachloroethene	ND		ug/kg	0.72	0.28	1
Chlorobenzene	ND		ug/kg	0.72	0.18	1
Trichlorofluoromethane	ND		ug/kg	5.7	1.0	1
1,2-Dichloroethane	ND		ug/kg	1.4	0.37	1
1,1,1-Trichloroethane	ND		ug/kg	0.72	0.24	1
Bromodichloromethane	ND		ug/kg	0.72	0.16	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	0.39	1
cis-1,3-Dichloropropene	ND		ug/kg	0.72	0.23	1
Bromoform	ND		ug/kg	5.7	0.35	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.72	0.24	1
Benzene	ND		ug/kg	0.72	0.24	1
Toluene	ND		ug/kg	1.4	0.78	1
Ethylbenzene	ND		ug/kg	1.4	0.20	1
Chloromethane	ND		ug/kg	5.7	1.3	1
Bromomethane	ND		ug/kg	2.9	0.83	1
Vinyl chloride	ND		ug/kg	1.4	0.48	1
Chloroethane	ND		ug/kg	2.9	0.65	1
1,1-Dichloroethene	ND		ug/kg	1.4	0.34	1
trans-1,2-Dichloroethene	ND		ug/kg	2.2	0.20	1
Trichloroethene	ND		ug/kg	0.72	0.20	1
1,2-Dichlorobenzene	ND		ug/kg	2.9	0.21	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-20 Date Collected: 05/30/19 14:00

Client ID: DP-VOC-10 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.9	0.21	1
1,4-Dichlorobenzene	ND		ug/kg	2.9	0.24	1
Methyl tert butyl ether	ND		ug/kg	2.9	0.29	1
p/m-Xylene	ND		ug/kg	2.9	0.80	1
o-Xylene	ND		ug/kg	1.4	0.42	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	0.25	1
Styrene	ND		ug/kg	1.4	0.28	1
Dichlorodifluoromethane	ND		ug/kg	14	1.3	1
Acetone	25		ug/kg	14	6.9	1
Carbon disulfide	ND		ug/kg	14	6.5	1
2-Butanone	ND		ug/kg	14	3.2	1
4-Methyl-2-pentanone	ND		ug/kg	14	1.8	1
2-Hexanone	ND		ug/kg	14	1.7	1
1,2-Dibromoethane	ND		ug/kg	1.4	0.40	1
n-Butylbenzene	ND		ug/kg	1.4	0.24	1
sec-Butylbenzene	ND		ug/kg	1.4	0.21	1
tert-Butylbenzene	ND		ug/kg	2.9	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.3	1.4	1
Isopropylbenzene	ND		ug/kg	1.4	0.16	1
p-Isopropyltoluene	ND		ug/kg	1.4	0.16	1
Naphthalene	ND		ug/kg	5.7	0.93	1
n-Propylbenzene	ND		ug/kg	1.4	0.24	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.9	0.39	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.9	0.28	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.9	0.48	1
Methyl Acetate	ND		ug/kg	5.7	1.4	1
Cyclohexane	ND		ug/kg	14	0.78	1
Freon-113	ND		ug/kg	5.7	0.99	1
Methyl cyclohexane	ND		ug/kg	5.7	0.86	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	99		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-21
Client ID: DP-VOC-11
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:20
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 06/05/19 14:54
Analyst: PK
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	6.8	3.1	1
1,1-Dichloroethane	ND		ug/kg	1.4	0.20	1
Chloroform	ND		ug/kg	2.0	0.19	1
Carbon tetrachloride	ND		ug/kg	1.4	0.31	1
1,2-Dichloropropane	ND		ug/kg	1.4	0.17	1
Dibromochloromethane	ND		ug/kg	1.4	0.19	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	0.36	1
Tetrachloroethene	ND		ug/kg	0.68	0.27	1
Chlorobenzene	ND		ug/kg	0.68	0.17	1
Trichlorofluoromethane	ND		ug/kg	5.4	0.95	1
1,2-Dichloroethane	ND		ug/kg	1.4	0.35	1
1,1,1-Trichloroethane	0.51	J	ug/kg	0.68	0.23	1
Bromodichloromethane	ND		ug/kg	0.68	0.15	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	0.37	1
cis-1,3-Dichloropropene	ND		ug/kg	0.68	0.22	1
Bromoform	ND		ug/kg	5.4	0.33	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.68	0.23	1
Benzene	ND		ug/kg	0.68	0.23	1
Toluene	ND		ug/kg	1.4	0.74	1
Ethylbenzene	ND		ug/kg	1.4	0.19	1
Chloromethane	ND		ug/kg	5.4	1.3	1
Bromomethane	ND		ug/kg	2.7	0.79	1
Vinyl chloride	ND		ug/kg	1.4	0.46	1
Chloroethane	ND		ug/kg	2.7	0.62	1
1,1-Dichloroethene	ND		ug/kg	1.4	0.32	1
trans-1,2-Dichloroethene	ND		ug/kg	2.0	0.19	1
Trichloroethene	ND		ug/kg	0.68	0.19	1
1,2-Dichlorobenzene	ND		ug/kg	2.7	0.20	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-21 Date Collected: 05/30/19 14:20

Client ID: DP-VOC-11 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.7	0.20	1
1,4-Dichlorobenzene	ND		ug/kg	2.7	0.23	1
Methyl tert butyl ether	ND		ug/kg	2.7	0.27	1
p/m-Xylene	ND		ug/kg	2.7	0.76	1
o-Xylene	ND		ug/kg	1.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	0.24	1
Styrene	ND		ug/kg	1.4	0.27	1
Dichlorodifluoromethane	ND		ug/kg	14	1.2	1
Acetone	12	J	ug/kg	14	6.6	1
Carbon disulfide	ND		ug/kg	14	6.2	1
2-Butanone	ND		ug/kg	14	3.0	1
4-Methyl-2-pentanone	ND		ug/kg	14	1.7	1
2-Hexanone	ND		ug/kg	14	1.6	1
1,2-Dibromoethane	ND		ug/kg	1.4	0.38	1
n-Butylbenzene	ND		ug/kg	1.4	0.23	1
sec-Butylbenzene	ND		ug/kg	1.4	0.20	1
tert-Butylbenzene	ND		ug/kg	2.7	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.1	1.4	1
Isopropylbenzene	ND		ug/kg	1.4	0.15	1
p-Isopropyltoluene	ND		ug/kg	1.4	0.15	1
Naphthalene	ND		ug/kg	5.4	0.88	1
n-Propylbenzene	ND		ug/kg	1.4	0.23	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.7	0.37	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.7	0.26	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.7	0.45	1
Methyl Acetate	ND		ug/kg	5.4	1.3	1
Cyclohexane	ND		ug/kg	14	0.74	1
Freon-113	ND		ug/kg	5.4	0.94	1
Methyl cyclohexane	ND		ug/kg	5.4	0.82	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	101		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 07:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10,16-18,20-21 Batch: WG1244726-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 07:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10,16-18,20-21 Batch: WG1244726-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 07:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 10,16-18,20-21 Batch: WG1244726-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 06:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 06:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/05/19 06:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10,16-18,20-21 Batch: WG1244726-3 WG1244726-4								
Methylene chloride	94		93		70-130	1		30
1,1-Dichloroethane	97		97		70-130	0		30
Chloroform	93		92		70-130	1		30
Carbon tetrachloride	89		88		70-130	1		30
1,2-Dichloropropane	96		95		70-130	1		30
Dibromochloromethane	96		97		70-130	1		30
1,1,2-Trichloroethane	99		100		70-130	1		30
Tetrachloroethene	95		92		70-130	3		30
Chlorobenzene	95		95		70-130	0		30
Trichlorofluoromethane	83		81		70-139	2		30
1,2-Dichloroethane	94		95		70-130	1		30
1,1,1-Trichloroethane	93		92		70-130	1		30
Bromodichloromethane	94		94		70-130	0		30
trans-1,3-Dichloropropene	104		103		70-130	1		30
cis-1,3-Dichloropropene	98		98		70-130	0		30
Bromoform	102		102		70-130	0		30
1,1,2,2-Tetrachloroethane	101		103		70-130	2		30
Benzene	93		91		70-130	2		30
Toluene	98		96		70-130	2		30
Ethylbenzene	98		96		70-130	2		30
Chloromethane	78		74		52-130	5		30
Bromomethane	110		106		57-147	4		30
Vinyl chloride	78		74		67-130	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10,16-18,20-21 Batch: WG1244726-3 WG1244726-4								
Chloroethane	88		85		50-151	3		30
1,1-Dichloroethene	90		88		65-135	2		30
trans-1,2-Dichloroethene	91		88		70-130	3		30
Trichloroethene	90		90		70-130	0		30
1,2-Dichlorobenzene	92		93		70-130	1		30
1,3-Dichlorobenzene	93		93		70-130	0		30
1,4-Dichlorobenzene	92		92		70-130	0		30
Methyl tert butyl ether	98		100		66-130	2		30
p/m-Xylene	99		98		70-130	1		30
o-Xylene	100		99		70-130	1		30
cis-1,2-Dichloroethene	91		93		70-130	2		30
Styrene	102		101		70-130	1		30
Dichlorodifluoromethane	59		58		30-146	2		30
Acetone	106		103		54-140	3		30
Carbon disulfide	90		87		59-130	3		30
2-Butanone	95		94		70-130	1		30
4-Methyl-2-pentanone	113		109		70-130	4		30
2-Hexanone	104		104		70-130	0		30
1,2-Dibromoethane	97		98		70-130	1		30
n-Butylbenzene	99		98		70-130	1		30
sec-Butylbenzene	97		97		70-130	0		30
tert-Butylbenzene	96		96		70-130	0		30
1,2-Dibromo-3-chloropropane	95		102		68-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 10,16-18,20-21 Batch: WG1244726-3 WG1244726-4								
Isopropylbenzene	100		98		70-130	2		30
p-Isopropyltoluene	96		96		70-130	0		30
Naphthalene	91		94		70-130	3		30
n-Propylbenzene	99		98		70-130	1		30
1,2,4-Trichlorobenzene	93		93		70-130	0		30
1,3,5-Trimethylbenzene	101		99		70-130	2		30
1,2,4-Trimethylbenzene	100		100		70-130	0		30
Methyl Acetate	99		99		51-146	0		30
Cyclohexane	96		94		59-142	2		30
Freon-113	89		87		50-139	2		30
Methyl cyclohexane	90		89		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	109		109		70-130
Dibromofluoromethane	97		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-3 WG1244886-4								
Methylene chloride	101		89		70-130	13		30
1,1-Dichloroethane	105		93		70-130	12		30
Chloroform	91		83		70-130	9		30
Carbon tetrachloride	92		81		70-130	13		30
1,2-Dichloropropane	105		95		70-130	10		30
Dibromochloromethane	98		89		70-130	10		30
1,1,2-Trichloroethane	91		84		70-130	8		30
Tetrachloroethene	89		78		70-130	13		30
Chlorobenzene	90		81		70-130	11		30
Trichlorofluoromethane	74		**63**	Q	70-139	16		30
1,2-Dichloroethane	98		90		70-130	9		30
1,1,1-Trichloroethane	89		79		70-130	12		30
Bromodichloromethane	95		85		70-130	11		30
trans-1,3-Dichloropropene	95		86		70-130	10		30
cis-1,3-Dichloropropene	100		89		70-130	12		30
Bromoform	95		89		70-130	7		30
1,1,2,2-Tetrachloroethane	89		88		70-130	1		30
Benzene	96		85		70-130	12		30
Toluene	89		80		70-130	11		30
Ethylbenzene	86		78		70-130	10		30
Chloromethane	127		110		52-130	14		30
Bromomethane	90		79		57-147	13		30
Vinyl chloride	93		78		67-130	18		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-3 WG1244886-4								
Chloroethane	85		72		50-151	17		30
1,1-Dichloroethene	96		82		65-135	16		30
trans-1,2-Dichloroethene	96		84		70-130	13		30
Trichloroethene	94		84		70-130	11		30
1,2-Dichlorobenzene	93		85		70-130	9		30
1,3-Dichlorobenzene	93		85		70-130	9		30
1,4-Dichlorobenzene	91		84		70-130	8		30
Methyl tert butyl ether	95		87		66-130	9		30
p/m-Xylene	90		81		70-130	11		30
o-Xylene	89		79		70-130	12		30
cis-1,2-Dichloroethene	94		83		70-130	12		30
Styrene	90		81		70-130	11		30
Dichlorodifluoromethane	73		63		30-146	15		30
Acetone	130		**142**	Q	54-140	9		30
Carbon disulfide	94		81		59-130	15		30
2-Butanone	115		128		70-130	11		30
4-Methyl-2-pentanone	96		100		70-130	4		30
2-Hexanone	101		105		70-130	4		30
1,2-Dibromoethane	91		89		70-130	2		30
n-Butylbenzene	90		80		70-130	12		30
sec-Butylbenzene	90		81		70-130	11		30
tert-Butylbenzene	91		81		70-130	12		30
1,2-Dibromo-3-chloropropane	86		92		68-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-03,05-06,08-09,12-14 Batch: WG1244886-3 WG1244886-4								
Isopropylbenzene	88		79		70-130	11		30
p-Isopropyltoluene	93		84		70-130	10		30
Naphthalene	84		82		70-130	2		30
n-Propylbenzene	89		79		70-130	12		30
1,2,4-Trichlorobenzene	91		82		70-130	10		30
1,3,5-Trimethylbenzene	92		82		70-130	11		30
1,2,4-Trimethylbenzene	92		83		70-130	10		30
Methyl Acetate	132		140		51-146	6		30
Cyclohexane	108		92		59-142	16		30
Freon-113	97		83		50-139	16		30
Methyl cyclohexane	84		74		70-130	13		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		101		70-130
Toluene-d8	96		94		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	103		101		70-130

SEMIVOLATILES

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 13:21
Analyst: RC
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	23.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
1,2-Dichlorobenzene	ND		ug/kg	200	36.	1
1,3-Dichlorobenzene	ND		ug/kg	200	34.	1
1,4-Dichlorobenzene	ND		ug/kg	200	35.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	40	J	ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 Date Collected: 05/30/19 10:00

Client ID: SW-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	24	J	ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	56	J	ug/kg	160	28.	1
Pyrene	32	J	ug/kg	120	20.	1
Biphenyl	ND		ug/kg	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	25.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	960	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 Date Collected: 05/30/19 10:00

Client ID: SW-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Benzoic Acid	ND		ug/kg	650	200	1
Benzyl Alcohol	ND		ug/kg	200	61.	1
Carbazole	ND		ug/kg	200	19.	1
1,4-Dioxane	ND		ug/kg	30	9.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		25-120
Phenol-d6	87		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	98		30-120
2,4,6-Tribromophenol	107		10-136
4-Terphenyl-d14	84		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 16:50
Analyst: AJ
Percent Solids: 83%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ug/kg	0.918	0.021	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	0.918	0.042	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	0.918	0.036	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	0.918	0.048	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	0.918	0.041	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	0.918	0.056	1
Perfluorooctanoic Acid (PFOA)	ND		ug/kg	0.918	0.039	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	0.918	0.165	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	0.918	0.125	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	0.918	0.069	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	0.918	0.119	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	0.918	0.062	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	0.918	0.264	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	0.918	0.185	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	0.918	0.043	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	0.918	0.140	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	0.918	0.090	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	0.918	0.078	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	0.918	0.064	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	0.918	0.188	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	0.918	0.050	1
PFOA/PFOS, Total	ND		ug/kg	0.918	0.039	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 Date Collected: 05/30/19 10:00

Client ID: SW-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	88		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	82		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	106		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	58		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	69		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**44**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	1		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**39**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 D
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 20:24
Analyst: MA
Percent Solids: 83%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	18.6	4.74	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	74		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 13:47
Analyst: RC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	35.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	58	J	ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	180	1
Hexachloroethane	ND		ug/kg	160	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	170	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 Date Collected: 05/30/19 10:50

Client ID: SW-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	32	J	ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	47.	1
Benzo(b)fluoranthene	40	J	ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	30	J	ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	27	J	ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	60	J	ug/kg	160	27.	1
Pyrene	50	J	ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	79.	1
2,4-Dinitrophenol	ND		ug/kg	930	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	93.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 Date Collected: 05/30/19 10:50

Client ID: SW-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Benzoic Acid	ND		ug/kg	630	200	1
Benzyl Alcohol	ND		ug/kg	190	59.	1
Carbazole	ND		ug/kg	190	19.	1
1,4-Dioxane	ND		ug/kg	29	8.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		25-120
Phenol-d6	68		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	82		10-136
4-Terphenyl-d14	61		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 17:07
Analyst: AJ
Percent Solids: 84%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.044	J	ug/kg	0.915	0.021	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	0.915	0.042	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	0.915	0.036	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	0.915	0.048	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	0.915	0.041	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	0.915	0.055	1
Perfluorooctanoic Acid (PFOA)	0.074	J	ug/kg	0.915	0.038	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	0.915	0.164	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	0.915	0.125	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	0.915	0.069	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	0.915	0.119	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	0.915	0.061	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	0.915	0.262	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	0.915	0.184	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	0.915	0.043	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	0.915	0.140	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	0.915	0.090	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	0.915	0.077	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	0.915	0.064	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	0.915	0.187	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	0.915	0.049	1
PFOA/PFOS, Total	0.074	J	ug/kg	0.915	0.038	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 Date Collected: 05/30/19 10:50

Client ID: SW-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	74		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	71		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	77		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	58		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	77		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	67		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**32**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**34**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	69		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	57		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 D
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 20:43
Analyst: MA
Percent Solids: 84%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	17.4	4.42	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	62		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 14:12
Analyst: RC
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	33.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	42	J	ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 Date Collected: 05/30/19 11:50

Client ID: DP-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	22	J	ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	54	J	ug/kg	150	26.	1
Pyrene	31	J	ug/kg	110	19.	1
Biphenyl	ND		ug/kg	430	44.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	71.	1
4-Nitrophenol	ND		ug/kg	260	77.	1
2,4-Dinitrophenol	ND		ug/kg	910	88.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	91.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	30.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 Date Collected: 05/30/19 11:50

Client ID: DP-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Benzoic Acid	ND		ug/kg	610	190	1
Benzyl Alcohol	ND		ug/kg	190	58.	1
Carbazole	ND		ug/kg	190	18.	1
1,4-Dioxane	ND		ug/kg	28	8.7	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	85		25-120
Phenol-d6	83		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	92		30-120
2,4,6-Tribromophenol	107		10-136
4-Terphenyl-d14	82		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 17:23
Analyst: AJ
Percent Solids: 86%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.055	J	ug/kg	1.04	0.024	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	1.04	0.048	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	1.04	0.041	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	1.04	0.055	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	1.04	0.047	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	1.04	0.063	1
Perfluorooctanoic Acid (PFOA)	0.071	J	ug/kg	1.04	0.044	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	1.04	0.187	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	1.04	0.142	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	1.04	0.078	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	1.04	0.135	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	1.04	0.070	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	1.04	0.299	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	1.04	0.210	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	1.04	0.049	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	1.04	0.159	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	1.04	0.102	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	1.04	0.088	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	1.04	0.073	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	1.04	0.213	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	1.04	0.056	1
PFOA/PFOS, Total	0.071	J	ug/kg	1.04	0.044	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 Date Collected: 05/30/19 11:50

Client ID: DP-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**48**	Q	60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**49**	Q	65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	67		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	66		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	67		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	55		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	68		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	61		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**24**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**22**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	52		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 D
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 21:02
Analyst: MA
Percent Solids: 86%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	16.9	4.32	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	65		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 14:38
Analyst: RC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	35.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	3000		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	180	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	42	J	ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	170	29.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 Date Collected: 05/30/19 12:50

Client ID: DP-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	1600		ug/kg	120	22.	1
Benzo(a)pyrene	1400		ug/kg	150	47.	1
Benzo(b)fluoranthene	1900		ug/kg	120	33.	1
Benzo(k)fluoranthene	640		ug/kg	120	31.	1
Chrysene	1400		ug/kg	120	20.	1
Acenaphthylene	290		ug/kg	150	30.	1
Anthracene	460		ug/kg	120	38.	1
Benzo(ghi)perylene	810		ug/kg	150	23.	1
Fluorene	120	J	ug/kg	190	19.	1
Phenanthrene	1600		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	210		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	850		ug/kg	150	27.	1
Pyrene	2400		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	40	J	ug/kg	190	18.	1
2-Methylnaphthalene	23	J	ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	79.	1
2,4-Dinitrophenol	ND		ug/kg	930	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	93.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 Date Collected: 05/30/19 12:50

Client ID: DP-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Benzoic Acid	ND		ug/kg	630	200	1
Benzyl Alcohol	ND		ug/kg	190	59.	1
Carbazole	220		ug/kg	190	19.	1
1,4-Dioxane	ND		ug/kg	29	8.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		25-120
Phenol-d6	70		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	85		30-120
2,4,6-Tribromophenol	94		10-136
4-Terphenyl-d14	79		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 17:40
Analyst: AJ
Percent Solids: 84%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.031	J	ug/kg	0.883	0.020	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	0.883	0.041	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	0.883	0.034	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	0.883	0.046	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	0.883	0.040	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	0.883	0.053	1
Perfluorooctanoic Acid (PFOA)	ND		ug/kg	0.883	0.037	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	0.883	0.158	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	0.883	0.120	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	0.883	0.066	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	0.883	0.115	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	0.883	0.059	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	0.883	0.253	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	0.883	0.178	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	0.883	0.041	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	0.883	0.135	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	0.883	0.087	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	0.883	0.075	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	0.883	0.062	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	0.883	0.180	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	0.883	0.048	1
PFOA/PFOS, Total	ND		ug/kg	0.883	0.037	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 Date Collected: 05/30/19 12:50

Client ID: DP-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	73		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	59		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	55		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**39**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	1		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**41**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	72		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	59		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 D
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 21:21
Analyst: MA
Percent Solids: 84%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	16.2	4.13	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	72		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 15:04
Analyst: RC
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	69	J	ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	65.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 Date Collected: 05/30/19 13:50

Client ID: DP-COMP-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	34	J	ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	47	J	ug/kg	120	32.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	32	J	ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	120	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	36	J	ug/kg	120	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	62	J	ug/kg	150	27.	1
Pyrene	51	J	ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	420	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 Date Collected: 05/30/19 13:50

Client ID: DP-COMP-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Benzoic Acid	ND		ug/kg	620	190	1
Benzyl Alcohol	ND		ug/kg	190	59.	1
Carbazole	ND		ug/kg	190	19.	1
1,4-Dioxane	ND		ug/kg	29	8.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	77		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	89		30-120
2,4,6-Tribromophenol	102		10-136
4-Terphenyl-d14	83		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 17:56
Analyst: AJ
Percent Solids: 84%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.040	J	ug/kg	1.14	0.026	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	1.14	0.052	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	1.14	0.044	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	1.14	0.060	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	1.14	0.051	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	1.14	0.069	1
Perfluorooctanoic Acid (PFOA)	0.070	J	ug/kg	1.14	0.048	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	1.14	0.204	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	1.14	0.156	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	1.14	0.085	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	1.14	0.148	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	1.14	0.076	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	1.14	0.327	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	1.14	0.230	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	1.14	0.053	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	1.14	0.174	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	1.14	0.112	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	1.14	0.096	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	1.14	0.080	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	1.14	0.233	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	1.14	0.062	1
PFOA/PFOS, Total	0.070	J	ug/kg	1.14	0.048	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 Date Collected: 05/30/19 13:50

Client ID: DP-COMP-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**47**	Q	60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**48**	Q	65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	65		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	64		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	64		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	53		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	67		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	75		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	53		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**24**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	83		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**25**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	51		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 D
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 21:40
Analyst: MA
Percent Solids: 84%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	16.0	4.08	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	68		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 06/05/19 15:30
Analyst: RC
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	33.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	150		ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	65.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 Date Collected: 05/30/19 14:30

Client ID: DP-COMP-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	78	J	ug/kg	110	21.	1
Benzo(a)pyrene	77	J	ug/kg	150	46.	1
Benzo(b)fluoranthene	110		ug/kg	110	32.	1
Benzo(k)fluoranthene	36	J	ug/kg	110	30.	1
Chrysene	76	J	ug/kg	110	20.	1
Acenaphthylene	30	J	ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	55	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	72	J	ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	93	J	ug/kg	150	26.	1
Pyrene	120		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	430	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	30.	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 Date Collected: 05/30/19 14:30

Client ID: DP-COMP-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Benzoic Acid	ND		ug/kg	620	190	1
Benzyl Alcohol	ND		ug/kg	190	58.	1
Carbazole	ND		ug/kg	190	18.	1
1,4-Dioxane	ND		ug/kg	29	8.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	88		25-120
Phenol-d6	87		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	102		30-120
2,4,6-Tribromophenol	112		10-136
4-Terphenyl-d14	94		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 06/08/19 18:13
Analyst: AJ
Percent Solids: 86%

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.041	J	ug/kg	0.939	0.021	1
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	0.939	0.043	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	0.939	0.037	1
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	0.939	0.049	1
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	0.939	0.042	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	0.939	0.057	1
Perfluorooctanoic Acid (PFOA)	0.058	J	ug/kg	0.939	0.039	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	0.939	0.168	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	0.939	0.128	1
Perfluorononanoic Acid (PFNA)	ND		ug/kg	0.939	0.070	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	0.939	0.122	1
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	0.939	0.063	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	0.939	0.269	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	0.939	0.189	1
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	0.939	0.044	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	0.939	0.144	1
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	0.939	0.092	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	0.939	0.079	1
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	0.939	0.066	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	0.939	0.192	1
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	0.939	0.051	1
PFOA/PFOS, Total	0.058	J	ug/kg	0.939	0.039	1

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 Date Collected: 05/30/19 14:30

Client ID: DP-COMP-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**44**	Q	60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**46**	Q	65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	67		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	69		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	68		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	58		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	79		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	57		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**34**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**28**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	72		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	54		26-160

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 D
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 21:59
Analyst: MA
Percent Solids: 86%

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/kg	16.5	4.20	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	61		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 06/03/19 15:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243763-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 06/03/19 15:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243763-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 06/03/19 15:36
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 06/03/19 02:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243763-1					
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	79.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
1,4-Dioxane	ND		ug/kg	24	7.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		25-120
Phenol-d6	70		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	85		10-136
4-Terphenyl-d14	81		18-120

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 06/08/19 19:07
Analyst: MA

Extraction Method: EPA 3570
Extraction Date: 06/04/19 17:43

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 04,07,11,15,19,22 Batch: WG1244510-1					
1,4-Dioxane	ND		ug/kg	8.00	2.04

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	66		15-110

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 06/08/19 12:42
Analyst: AJ

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04,07,11,15,19,22 Batch: WG1245296-1					
Perfluorobutanoic Acid (PFBA)	0.095	J	ug/kg	1.00	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ug/kg	1.00	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ug/kg	1.00	0.039
Perfluorohexanoic Acid (PFHxA)	ND		ug/kg	1.00	0.053
Perfluoroheptanoic Acid (PFHpA)	ND		ug/kg	1.00	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ug/kg	1.00	0.061
Perfluorooctanoic Acid (PFOA)	ND		ug/kg	1.00	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ug/kg	1.00	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ug/kg	1.00	0.136
Perfluorononanoic Acid (PFNA)	ND		ug/kg	1.00	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ug/kg	1.00	0.130
Perfluorodecanoic Acid (PFDA)	ND		ug/kg	1.00	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ug/kg	1.00	0.287
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ug/kg	1.00	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ug/kg	1.00	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ug/kg	1.00	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ug/kg	1.00	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ug/kg	1.00	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ug/kg	1.00	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ug/kg	1.00	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ug/kg	1.00	0.054
PFOA/PFOS, Total	ND		ug/kg	1.00	0.042

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 06/08/19 12:42
Analyst: AJ

Extraction Method: EPA 537(M)
Extraction Date: 06/06/19 10:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04,07,11,15,19,22 Batch: WG1245296-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	68		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	127		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	129		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	75		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	91		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	106		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	104		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	108		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	1		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	64		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	93		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		26-160

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243763-2 WG1243763-3								
Acenaphthene	63		86		31-137	31		50
1,2,4-Trichlorobenzene	60		81		38-107	30		50
Hexachlorobenzene	66		90		40-140	31		50
Bis(2-chloroethyl)ether	60		80		40-140	29		50
2-Chloronaphthalene	64		87		40-140	30		50
1,2-Dichlorobenzene	58		77		40-140	28		50
1,3-Dichlorobenzene	57		76		40-140	29		50
1,4-Dichlorobenzene	57		76		28-104	29		50
3,3'-Dichlorobenzidine	46		64		40-140	33		50
2,4-Dinitrotoluene	75		100		40-132	29		50
2,6-Dinitrotoluene	78		106		40-140	30		50
Fluoranthene	67		92		40-140	31		50
4-Chlorophenyl phenyl ether	64		86		40-140	29		50
4-Bromophenyl phenyl ether	65		89		40-140	31		50
Bis(2-chloroisopropyl)ether	60		82		40-140	31		50
Bis(2-chloroethoxy)methane	66		89		40-117	30		50
Hexachlorobutadiene	58		80		40-140	32		50
Hexachlorocyclopentadiene	64		88		40-140	32		50
Hexachloroethane	58		78		40-140	29		50
Isophorone	65		89		40-140	31		50
Naphthalene	60		81		40-140	30		50
Nitrobenzene	72		96		40-140	29		50
NDPA/DPA	67		92		36-157	31		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243763-2 WG1243763-3								
n-Nitrosodi-n-propylamine	64		88		32-121	32		50
Bis(2-ethylhexyl)phthalate	74		101		40-140	31		50
Butyl benzyl phthalate	71		98		40-140	32		50
Di-n-butylphthalate	69		95		40-140	32		50
Di-n-octylphthalate	72		102		40-140	34		50
Diethyl phthalate	67		91		40-140	30		50
Dimethyl phthalate	69		94		40-140	31		50
Benzo(a)anthracene	65		90		40-140	32		50
Benzo(a)pyrene	74		101		40-140	31		50
Benzo(b)fluoranthene	69		95		40-140	32		50
Benzo(k)fluoranthene	71		98		40-140	32		50
Chrysene	65		90		40-140	32		50
Acenaphthylene	67		91		40-140	30		50
Anthracene	65		90		40-140	32		50
Benzo(ghi)perylene	65		91		40-140	33		50
Fluorene	65		88		40-140	30		50
Phenanthrene	64		87		40-140	30		50
Dibenzo(a,h)anthracene	66		90		40-140	31		50
Indeno(1,2,3-cd)pyrene	67		93		40-140	33		50
Pyrene	66		91		35-142	32		50
Biphenyl	66		89		54-104	30		50
4-Chloroaniline	56		74		40-140	28		50
2-Nitroaniline	79		107		47-134	30		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243763-2 WG1243763-3								
3-Nitroaniline	61		81		26-129	28		50
4-Nitroaniline	82		112		41-125	31		50
Dibenzofuran	64		87		40-140	30		50
2-Methylnaphthalene	62		84		40-140	30		50
1,2,4,5-Tetrachlorobenzene	62		84		40-117	30		50
Acetophenone	66		90		14-144	31		50
2,4,6-Trichlorophenol	72		99		30-130	32		50
p-Chloro-m-cresol	74		102		26-103	32		50
2-Chlorophenol	65		88		25-102	30		50
2,4-Dichlorophenol	72		98		30-130	31		50
2,4-Dimethylphenol	73		99		30-130	30		50
2-Nitrophenol	84		117		30-130	33		50
4-Nitrophenol	80		110		11-114	32		50
2,4-Dinitrophenol	84		111		4-130	28		50
4,6-Dinitro-o-cresol	94		126		10-130	29		50
Pentachlorophenol	67		89		17-109	28		50
Phenol	66		89		26-90	30		50
2-Methylphenol	68		92		30-130.	30		50
3-Methylphenol/4-Methylphenol	71		96		30-130	30		50
2,4,5-Trichlorophenol	75		101		30-130	30		50
Benzoic Acid	58		73		10-110	23		50
Benzyl Alcohol	66		91		40-140	32		50
Carbazole	66		92		54-128	33		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243763-2 WG1243763-3								
1,4-Dioxane	47		61		40-140	26		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	62		82		25-120
Phenol-d6	62		81		10-120
Nitrobenzene-d5	73		95		23-120
2-Fluorobiphenyl	62		80		30-120
2,4,6-Tribromophenol	73		97		10-136
4-Terphenyl-d14	63		84		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1244510-2 WG1244510-3								
1,4-Dioxane	109		111		40-140	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	67		65		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab	Associated sample(s): 04,07,11,15,19,22		Batch: WG1245296-2 WG1245296-3					
Perfluorobutanoic Acid (PFBA)	111		112		71-135	1		30
Perfluoropentanoic Acid (PFPeA)	107		111		69-132	4		30
Perfluorobutanesulfonic Acid (PFBS)	108		112		72-128	4		30
Perfluorohexanoic Acid (PFHxA)	125		130		70-132	4		30
Perfluoroheptanoic Acid (PFHpA)	112		122		71-131	9		30
Perfluorohexanesulfonic Acid (PFHxS)	110		119		67-130	8		30
Perfluorooctanoic Acid (PFOA)	113		120		69-133	6		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	99		99		64-140	0		30
Perfluoroheptanesulfonic Acid (PFHpS)	111		121		70-132	9		30
Perfluorononanoic Acid (PFNA)	116		122		72-129	5		30
Perfluorooctanesulfonic Acid (PFOS)	97		94		68-136	3		30
Perfluorodecanoic Acid (PFDA)	119		120		69-133	1		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	100		98		65-137	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	111		112		63-144	1		30
Perfluoroundecanoic Acid (PFUnA)	111		112		64-136	1		30
Perfluorodecanesulfonic Acid (PFDS)	108		123		59-134	13		30
Perfluorooctanesulfonamide (FOSA)	84		77		67-137	9		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	116		131		61-139	12		30
Perfluorododecanoic Acid (PFDoA)	116		132		69-135	13		30
Perfluorotridecanoic Acid (PFTrDA)	121		130		66-139	7		30
Perfluorotetradecanoic Acid (PFTA)	130		**135**	Q	69-133	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1245296-2 WG1245296-3								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	78		79		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	76		74		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	123		124		70-151
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	103		101		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	99		94		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	116		115		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		90		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	74		80		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		91		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	114		109		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		100		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		80		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		78		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		100		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	1		1		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	62		62		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	88		85		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	77		76		26-160

PCBS

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 15:38
Analyst: HT
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.5	3.50	1	A
Aroclor 1221	ND		ug/kg	39.5	3.95	1	A
Aroclor 1232	ND		ug/kg	39.5	8.37	1	A
Aroclor 1242	ND		ug/kg	39.5	5.32	1	A
Aroclor 1248	ND		ug/kg	39.5	5.92	1	A
Aroclor 1254	273		ug/kg	39.5	4.32	1	A
Aroclor 1260	ND		ug/kg	39.5	7.29	1	A
Aroclor 1262	ND		ug/kg	39.5	5.01	1	A
Aroclor 1268	ND		ug/kg	39.5	4.09	1	A
PCBs, Total	273		ug/kg	39.5	3.50	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 15:51
Analyst: HT
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.2	3.48	1	A
Aroclor 1221	ND		ug/kg	39.2	3.93	1	A
Aroclor 1232	ND		ug/kg	39.2	8.31	1	A
Aroclor 1242	ND		ug/kg	39.2	5.29	1	A
Aroclor 1248	ND		ug/kg	39.2	5.88	1	A
Aroclor 1254	67.7		ug/kg	39.2	4.29	1	A
Aroclor 1260	ND		ug/kg	39.2	7.25	1	A
Aroclor 1262	ND		ug/kg	39.2	4.98	1	A
Aroclor 1268	ND		ug/kg	39.2	4.06	1	A
PCBs, Total	67.7		ug/kg	39.2	3.48	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	50		30-150	A
2,4,5,6-Tetrachloro-m-xylene	54		30-150	B
Decachlorobiphenyl	52		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 16:03
Analyst: HT
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.4	3.32	1	A
Aroclor 1221	ND		ug/kg	37.4	3.75	1	A
Aroclor 1232	ND		ug/kg	37.4	7.94	1	A
Aroclor 1242	ND		ug/kg	37.4	5.05	1	A
Aroclor 1248	ND		ug/kg	37.4	5.62	1	A
Aroclor 1254	ND		ug/kg	37.4	4.10	1	A
Aroclor 1260	ND		ug/kg	37.4	6.92	1	A
Aroclor 1262	ND		ug/kg	37.4	4.76	1	A
Aroclor 1268	ND		ug/kg	37.4	3.88	1	A
PCBs, Total	ND		ug/kg	37.4	3.32	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	62		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 16:15
Analyst: HT
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.1	3.47	1	A
Aroclor 1221	ND		ug/kg	39.1	3.92	1	A
Aroclor 1232	ND		ug/kg	39.1	8.29	1	A
Aroclor 1242	ND		ug/kg	39.1	5.27	1	A
Aroclor 1248	ND		ug/kg	39.1	5.87	1	A
Aroclor 1254	ND		ug/kg	39.1	4.28	1	A
Aroclor 1260	ND		ug/kg	39.1	7.23	1	A
Aroclor 1262	ND		ug/kg	39.1	4.97	1	A
Aroclor 1268	ND		ug/kg	39.1	4.05	1	A
PCBs, Total	ND		ug/kg	39.1	3.47	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	55		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	57		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 16:28
Analyst: HT
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.8	3.35	1	A
Aroclor 1221	ND		ug/kg	37.8	3.78	1	A
Aroclor 1232	ND		ug/kg	37.8	8.01	1	A
Aroclor 1242	ND		ug/kg	37.8	5.09	1	A
Aroclor 1248	ND		ug/kg	37.8	5.66	1	A
Aroclor 1254	ND		ug/kg	37.8	4.13	1	A
Aroclor 1260	ND		ug/kg	37.8	6.98	1	A
Aroclor 1262	ND		ug/kg	37.8	4.80	1	A
Aroclor 1268	ND		ug/kg	37.8	3.91	1	A
PCBs, Total	ND		ug/kg	37.8	3.35	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	51		30-150	A
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	54		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 06/04/19 16:40
Analyst: HT
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.1	3.30	1	A
Aroclor 1221	ND		ug/kg	37.1	3.72	1	A
Aroclor 1232	ND		ug/kg	37.1	7.87	1	A
Aroclor 1242	ND		ug/kg	37.1	5.00	1	A
Aroclor 1248	ND		ug/kg	37.1	5.57	1	A
Aroclor 1254	ND		ug/kg	37.1	4.06	1	A
Aroclor 1260	ND		ug/kg	37.1	6.86	1	A
Aroclor 1262	ND		ug/kg	37.1	4.71	1	A
Aroclor 1268	ND		ug/kg	37.1	3.84	1	A
PCBs, Total	ND		ug/kg	37.1	3.30	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 06/04/19 11:44
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 06/03/19 05:01
Cleanup Method: EPA 3665A
Cleanup Date: 06/03/19
Cleanup Method: EPA 3660B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243786-1						
Aroclor 1016	ND		ug/kg	32.0	2.85	A
Aroclor 1221	ND		ug/kg	32.0	3.21	A
Aroclor 1232	ND		ug/kg	32.0	6.79	A
Aroclor 1242	ND		ug/kg	32.0	4.32	A
Aroclor 1248	ND		ug/kg	32.0	4.81	A
Aroclor 1254	ND		ug/kg	32.0	3.51	A
Aroclor 1260	ND		ug/kg	32.0	5.92	A
Aroclor 1262	ND		ug/kg	32.0	4.07	A
Aroclor 1268	ND		ug/kg	32.0	3.32	A
PCBs, Total	ND		ug/kg	32.0	2.85	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	69		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243786-2 WG1243786-3									
Aroclor 1016	80		86		40-140	7		50	A
Aroclor 1260	85		86		40-140	1		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		78		30-150	A
Decachlorobiphenyl	80		84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		70		30-150	B
Decachlorobiphenyl	72		76		30-150	B

PESTICIDES

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 13:46
Analyst: BM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 21:52
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.91	0.374	1	A
Lindane	ND		ug/kg	0.795	0.355	1	A
Alpha-BHC	ND		ug/kg	0.795	0.226	1	A
Beta-BHC	ND		ug/kg	1.91	0.724	1	A
Heptachlor	ND		ug/kg	0.954	0.428	1	A
Aldrin	ND		ug/kg	1.91	0.672	1	A
Heptachlor epoxide	ND		ug/kg	3.58	1.07	1	A
Endrin	ND		ug/kg	0.795	0.326	1	A
Endrin aldehyde	ND		ug/kg	2.38	0.835	1	A
Endrin ketone	ND		ug/kg	1.91	0.491	1	A
Dieldrin	ND		ug/kg	1.19	0.596	1	A
4,4'-DDE	ND		ug/kg	1.91	0.441	1	A
4,4'-DDD	ND		ug/kg	1.91	0.680	1	A
4,4'-DDT	ND		ug/kg	3.58	1.53	1	A
Endosulfan I	ND		ug/kg	1.91	0.451	1	A
Endosulfan II	ND		ug/kg	1.91	0.638	1	A
Endosulfan sulfate	ND		ug/kg	0.795	0.378	1	A
Methoxychlor	ND		ug/kg	3.58	1.11	1	A
Toxaphene	ND		ug/kg	35.8	10.0	1	A
cis-Chlordane	ND		ug/kg	2.38	0.665	1	A
trans-Chlordane	ND		ug/kg	2.38	0.630	1	A
Chlordane	ND		ug/kg	15.5	6.32	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 Date Collected: 05/30/19 10:00

Client ID: SW-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	72		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 15:10
Analyst: DGM
Percent Solids: 83%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	199	12.5	1	A
2,4,5-T	ND		ug/kg	199	6.16	1	A
2,4,5-TP (Silvex)	ND		ug/kg	199	5.29	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	86		30-150	A
DCAA	77		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 13:58
Analyst: BM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.81	0.355	1	A
Lindane	ND		ug/kg	0.755	0.337	1	A
Alpha-BHC	ND		ug/kg	0.755	0.214	1	A
Beta-BHC	ND		ug/kg	1.81	0.687	1	A
Heptachlor	ND		ug/kg	0.906	0.406	1	A
Aldrin	ND		ug/kg	1.81	0.638	1	A
Heptachlor epoxide	ND		ug/kg	3.40	1.02	1	A
Endrin	ND		ug/kg	0.755	0.310	1	A
Endrin aldehyde	ND		ug/kg	2.26	0.793	1	A
Endrin ketone	ND		ug/kg	1.81	0.466	1	A
Dieldrin	ND		ug/kg	1.13	0.566	1	A
4,4'-DDE	ND		ug/kg	1.81	0.419	1	A
4,4'-DDD	ND		ug/kg	1.81	0.646	1	A
4,4'-DDT	ND		ug/kg	3.40	1.46	1	A
Endosulfan I	ND		ug/kg	1.81	0.428	1	A
Endosulfan II	ND		ug/kg	1.81	0.605	1	A
Endosulfan sulfate	ND		ug/kg	0.755	0.359	1	A
Methoxychlor	ND		ug/kg	3.40	1.06	1	A
Toxaphene	ND		ug/kg	34.0	9.51	1	A
cis-Chlordane	ND		ug/kg	2.26	0.631	1	A
trans-Chlordane	ND		ug/kg	2.26	0.598	1	A
Chlordane	ND		ug/kg	14.7	6.00	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 Date Collected: 05/30/19 10:50

Client ID: SW-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	93		30-150	B
Decachlorobiphenyl	105		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	102		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 15:28
Analyst: DGM
Percent Solids: 84%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	196	12.4	1	A
2,4,5-T	ND		ug/kg	196	6.08	1	A
2,4,5-TP (Silvex)	ND		ug/kg	196	5.22	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	60		30-150	A
DCAA	53		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 14:10
Analyst: BM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.79	0.351	1	A
Lindane	ND		ug/kg	0.747	0.334	1	A
Alpha-BHC	ND		ug/kg	0.747	0.212	1	A
Beta-BHC	ND		ug/kg	1.79	0.680	1	A
Heptachlor	ND		ug/kg	0.896	0.402	1	A
Aldrin	ND		ug/kg	1.79	0.631	1	A
Heptachlor epoxide	ND		ug/kg	3.36	1.01	1	A
Endrin	ND		ug/kg	0.747	0.306	1	A
Endrin aldehyde	ND		ug/kg	2.24	0.784	1	A
Endrin ketone	ND		ug/kg	1.79	0.462	1	A
Dieldrin	ND		ug/kg	1.12	0.560	1	A
4,4'-DDE	1.56	J	ug/kg	1.79	0.414	1	A
4,4'-DDD	ND		ug/kg	1.79	0.639	1	A
4,4'-DDT	2.84	J	ug/kg	3.36	1.44	1	A
Endosulfan I	ND		ug/kg	1.79	0.423	1	A
Endosulfan II	ND		ug/kg	1.79	0.599	1	A
Endosulfan sulfate	ND		ug/kg	0.747	0.356	1	A
Methoxychlor	ND		ug/kg	3.36	1.04	1	A
Toxaphene	ND		ug/kg	33.6	9.41	1	A
cis-Chlordane	ND		ug/kg	2.24	0.624	1	A
trans-Chlordane	ND		ug/kg	2.24	0.592	1	A
Chlordane	ND		ug/kg	14.6	5.94	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 Date Collected: 05/30/19 11:50

Client ID: DP-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		30-150	B
Decachlorobiphenyl	104		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	101		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 15:46
Analyst: DGM
Percent Solids: 86%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	188	11.8	1	A
2,4,5-T	ND		ug/kg	188	5.83	1	A
2,4,5-TP (Silvex)	ND		ug/kg	188	5.00	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	77		30-150	A
DCAA	68		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 14:21
Analyst: BM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.86	0.364	1	A
Lindane	ND		ug/kg	0.774	0.346	1	A
Alpha-BHC	ND		ug/kg	0.774	0.220	1	A
Beta-BHC	ND		ug/kg	1.86	0.704	1	A
Heptachlor	ND		ug/kg	0.929	0.416	1	A
Aldrin	ND		ug/kg	1.86	0.654	1	A
Heptachlor epoxide	ND		ug/kg	3.48	1.04	1	A
Endrin	ND		ug/kg	0.774	0.317	1	A
Endrin aldehyde	ND		ug/kg	2.32	0.813	1	A
Endrin ketone	ND		ug/kg	1.86	0.478	1	A
Dieldrin	ND		ug/kg	1.16	0.581	1	A
4,4'-DDE	ND		ug/kg	1.86	0.430	1	A
4,4'-DDD	ND		ug/kg	1.86	0.663	1	A
4,4'-DDT	ND		ug/kg	3.48	1.49	1	A
Endosulfan I	ND		ug/kg	1.86	0.439	1	A
Endosulfan II	ND		ug/kg	1.86	0.621	1	A
Endosulfan sulfate	ND		ug/kg	0.774	0.368	1	A
Methoxychlor	ND		ug/kg	3.48	1.08	1	A
Toxaphene	ND		ug/kg	34.8	9.76	1	A
cis-Chlordane	ND		ug/kg	2.32	0.647	1	A
trans-Chlordane	ND		ug/kg	2.32	0.613	1	A
Chlordane	ND		ug/kg	15.1	6.16	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 Date Collected: 05/30/19 12:50

Client ID: DP-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	99		30-150	B
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	90		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 16:04
Analyst: DGM
Percent Solids: 84%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	195	12.3	1	A
2,4,5-T	ND		ug/kg	195	6.04	1	A
2,4,5-TP (Silvex)	ND		ug/kg	195	5.18	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	84		30-150	A
DCAA	70		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 14:33
Analyst: BM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.84	0.361	1	A
Lindane	ND		ug/kg	0.768	0.344	1	A
Alpha-BHC	ND		ug/kg	0.768	0.218	1	A
Beta-BHC	ND		ug/kg	1.84	0.699	1	A
Heptachlor	ND		ug/kg	0.922	0.413	1	A
Aldrin	ND		ug/kg	1.84	0.649	1	A
Heptachlor epoxide	ND		ug/kg	3.46	1.04	1	A
Endrin	ND		ug/kg	0.768	0.315	1	A
Endrin aldehyde	ND		ug/kg	2.30	0.807	1	A
Endrin ketone	ND		ug/kg	1.84	0.475	1	A
Dieldrin	ND		ug/kg	1.15	0.576	1	A
4,4'-DDE	3.45		ug/kg	1.84	0.426	1	B
4,4'-DDD	ND		ug/kg	1.84	0.658	1	A
4,4'-DDT	4.98		ug/kg	3.46	1.48	1	A
Endosulfan I	ND		ug/kg	1.84	0.436	1	A
Endosulfan II	ND		ug/kg	1.84	0.616	1	A
Endosulfan sulfate	ND		ug/kg	0.768	0.366	1	A
Methoxychlor	ND		ug/kg	3.46	1.08	1	A
Toxaphene	ND		ug/kg	34.6	9.68	1	A
cis-Chlordane	ND		ug/kg	2.30	0.642	1	A
trans-Chlordane	ND		ug/kg	2.30	0.609	1	A
Chlordane	ND		ug/kg	15.0	6.11	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 Date Collected: 05/30/19 13:50

Client ID: DP-COMP-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	97		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	89		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 16:22
Analyst: DGM
Percent Solids: 84%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	194	12.2	1	A
2,4,5-T	ND		ug/kg	194	6.01	1	A
2,4,5-TP (Silvex)	ND		ug/kg	194	5.15	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	80		30-150	A
DCAA	67		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 06/04/19 14:45
Analyst: BM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.75	0.343	1	A
Lindane	ND		ug/kg	0.730	0.326	1	A
Alpha-BHC	ND		ug/kg	0.730	0.207	1	A
Beta-BHC	ND		ug/kg	1.75	0.664	1	A
Heptachlor	ND		ug/kg	0.876	0.393	1	A
Aldrin	ND		ug/kg	1.75	0.617	1	A
Heptachlor epoxide	ND		ug/kg	3.29	0.986	1	A
Endrin	ND		ug/kg	0.730	0.299	1	A
Endrin aldehyde	ND		ug/kg	2.19	0.767	1	A
Endrin ketone	ND		ug/kg	1.75	0.451	1	A
Dieldrin	ND		ug/kg	1.10	0.548	1	A
4,4'-DDE	2.55		ug/kg	1.75	0.405	1	A
4,4'-DDD	ND		ug/kg	1.75	0.625	1	A
4,4'-DDT	4.11		ug/kg	3.29	1.41	1	A
Endosulfan I	ND		ug/kg	1.75	0.414	1	A
Endosulfan II	ND		ug/kg	1.75	0.586	1	A
Endosulfan sulfate	ND		ug/kg	0.730	0.348	1	A
Methoxychlor	ND		ug/kg	3.29	1.02	1	A
Toxaphene	ND		ug/kg	32.9	9.20	1	A
cis-Chlordane	ND		ug/kg	2.19	0.610	1	A
trans-Chlordane	ND		ug/kg	2.19	0.578	1	A
Chlordane	ND		ug/kg	14.2	5.81	1	A

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 Date Collected: 05/30/19 14:30

Client ID: DP-COMP-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	95		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	100		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1923228
Project Number: 0400-017-001
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 06/05/19 16:40
Analyst: DGM
Percent Solids: 86%
Methylation Date: 06/04/19 18:55

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	190	12.0	1	A
2,4,5-T	ND		ug/kg	190	5.90	1	A
2,4,5-TP (Silvex)	ND		ug/kg	190	5.06	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	78		30-150	A
DCAA	65		30-150	B

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 06/04/19 13:00
Analyst: AMC

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243798-1						
Delta-BHC	ND		ug/kg	1.60	0.313	A
Lindane	ND		ug/kg	0.667	0.298	A
Alpha-BHC	ND		ug/kg	0.667	0.189	A
Beta-BHC	ND		ug/kg	1.60	0.607	A
Heptachlor	ND		ug/kg	0.800	0.359	A
Aldrin	ND		ug/kg	1.60	0.563	A
Heptachlor epoxide	ND		ug/kg	3.00	0.900	A
Endrin	ND		ug/kg	0.667	0.273	A
Endrin aldehyde	ND		ug/kg	2.00	0.700	A
Endrin ketone	ND		ug/kg	1.60	0.412	A
Dieldrin	ND		ug/kg	1.00	0.500	A
4,4'-DDE	ND		ug/kg	1.60	0.370	A
4,4'-DDD	ND		ug/kg	1.60	0.571	A
4,4'-DDT	ND		ug/kg	3.00	1.29	A
Endosulfan I	ND		ug/kg	1.60	0.378	A
Endosulfan II	ND		ug/kg	1.60	0.535	A
Endosulfan sulfate	ND		ug/kg	0.667	0.317	A
Methoxychlor	ND		ug/kg	3.00	0.933	A
Toxaphene	ND		ug/kg	30.0	8.40	A
cis-Chlordane	ND		ug/kg	2.00	0.557	A
trans-Chlordane	ND		ug/kg	2.00	0.528	A
Chlordane	ND		ug/kg	13.0	5.30	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 06/04/19 13:00
Analyst: AMC

Extraction Method: EPA 3546
Extraction Date: 06/03/19 06:40
Cleanup Method: EPA 3620B
Cleanup Date: 06/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243798-1						

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		30-150	B
Decachlorobiphenyl	107		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	77		30-150	A

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 06/04/19 10:02
Analyst: KEG

Extraction Method: EPA 8151A
Extraction Date: 06/03/19 19:49

Methylation Date: 06/04/19 07:32

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1244089-1						
2,4-D	ND		ug/kg	162	10.2	A
2,4,5-T	ND		ug/kg	162	5.02	A
2,4,5-TP (Silvex)	ND		ug/kg	162	4.31	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	77		30-150	A
DCAA	70		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243798-2 WG1243798-3									
Delta-BHC	101		89		30-150	13		30	A
Lindane	100		89		30-150	12		30	A
Alpha-BHC	107		96		30-150	11		30	A
Beta-BHC	89		84		30-150	6		30	A
Heptachlor	102		91		30-150	11		30	A
Aldrin	97		86		30-150	12		30	A
Heptachlor epoxide	70		61		30-150	14		30	A
Endrin	112		94		30-150	17		30	A
Endrin aldehyde	104		84		30-150	21		30	A
Endrin ketone	128		106		30-150	19		30	A
Dieldrin	115		97		30-150	17		30	A
4,4'-DDE	104		86		30-150	19		30	A
4,4'-DDD	114		94		30-150	19		30	A
4,4'-DDT	117		96		30-150	20		30	A
Endosulfan I	97		84		30-150	14		30	A
Endosulfan II	110		93		30-150	17		30	A
Endosulfan sulfate	113		95		30-150	17		30	A
Methoxychlor	106		86		30-150	21		30	A
cis-Chlordane	82		71		30-150	14		30	A
trans-Chlordane	98		83		30-150	17		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243798-2 WG1243798-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	103		92		30-150	B
Decachlorobiphenyl	122		99		30-150	B
2,4,5,6-Tetrachloro-m-xylene	90		80		30-150	A
Decachlorobiphenyl	114		95		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1244089-2 WG1244089-3									
2,4-D	84		93		30-150	10		30	A
2,4,5-T	79		82		30-150	4		30	A
2,4,5-TP (Silvex)	79		82		30-150	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	74		79		30-150	A
DCAA	70		74		30-150	B

METALS

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04 Date Collected: 05/30/19 10:00

Client ID: SW-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.61		mg/kg	0.468	0.097	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Barium, Total	45.3		mg/kg	0.468	0.081	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Beryllium, Total	0.393		mg/kg	0.234	0.015	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Cadmium, Total	0.907		mg/kg	0.468	0.046	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Chromium, Total	43.6		mg/kg	0.468	0.045	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Copper, Total	36.3		mg/kg	0.468	0.121	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Lead, Total	13.0		mg/kg	2.34	0.125	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Manganese, Total	1130		mg/kg	0.468	0.074	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.076	0.050	1	06/05/19 18:24	06/05/19 22:02	EPA 7471B	1,7471B	EA
Nickel, Total	29.8		mg/kg	1.17	0.113	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Selenium, Total	0.832	J	mg/kg	0.935	0.121	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Silver, Total	0.271	J	mg/kg	0.468	0.132	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
Zinc, Total	75.9		mg/kg	2.34	0.137	1	06/05/19 19:50	06/07/19 16:16	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	44		mg/kg	0.97	0.97	1		06/07/19 16:16	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07 Date Collected: 05/30/19 10:50

Client ID: SW-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.94		mg/kg	0.453	0.094	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Barium, Total	36.0		mg/kg	0.453	0.079	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Beryllium, Total	0.340		mg/kg	0.226	0.015	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Cadmium, Total	0.816		mg/kg	0.453	0.044	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Chromium, Total	9.99		mg/kg	0.453	0.044	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Copper, Total	24.7		mg/kg	0.453	0.117	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Lead, Total	9.23		mg/kg	2.26	0.121	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Manganese, Total	445		mg/kg	0.453	0.072	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.083	0.054	1	06/05/19 18:24	06/05/19 22:04	EPA 7471B	1,7471B	EA
Nickel, Total	25.5		mg/kg	1.13	0.110	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Selenium, Total	0.390	J	mg/kg	0.906	0.117	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.453	0.128	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
Zinc, Total	72.6		mg/kg	2.26	0.133	1	06/05/19 19:50	06/07/19 16:26	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	10		mg/kg	0.95	0.95	1		06/07/19 16:26	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11 Date Collected: 05/30/19 11:50

Client ID: DP-COMP-1 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	19.2		mg/kg	0.439	0.091	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Barium, Total	43.0		mg/kg	0.439	0.076	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Beryllium, Total	0.479		mg/kg	0.220	0.015	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Cadmium, Total	1.52		mg/kg	0.439	0.043	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Chromium, Total	10.4		mg/kg	0.439	0.042	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Copper, Total	38.4		mg/kg	0.439	0.113	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Lead, Total	15.6		mg/kg	2.20	0.118	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Manganese, Total	594		mg/kg	0.439	0.070	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.079	0.051	1	06/05/19 18:24	06/05/19 22:06	EPA 7471B	1,7471B	EA
Nickel, Total	41.5		mg/kg	1.10	0.106	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Selenium, Total	0.760	J	mg/kg	0.878	0.113	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Silver, Total	0.154	J	mg/kg	0.439	0.124	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
Zinc, Total	110		mg/kg	2.20	0.129	1	06/05/19 19:50	06/07/19 18:36	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	10		mg/kg	0.93	0.93	1		06/07/19 18:36	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15 Date Collected: 05/30/19 12:50

Client ID: DP-COMP-2 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	8.88		mg/kg	0.468	0.097	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Barium, Total	50.6		mg/kg	0.468	0.081	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Beryllium, Total	0.463		mg/kg	0.234	0.015	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Cadmium, Total	1.15		mg/kg	0.468	0.046	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Chromium, Total	11.3		mg/kg	0.468	0.045	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Copper, Total	25.0		mg/kg	0.468	0.121	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Lead, Total	10.8		mg/kg	2.34	0.125	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Manganese, Total	297		mg/kg	0.468	0.074	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.082	0.053	1	06/05/19 18:24	06/05/19 22:07	EPA 7471B	1,7471B	EA
Nickel, Total	33.6		mg/kg	1.17	0.113	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Selenium, Total	0.912	J	mg/kg	0.936	0.121	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.468	0.132	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
Zinc, Total	98.0		mg/kg	2.34	0.137	1	06/05/19 19:50	06/07/19 18:41	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	11		mg/kg	0.95	0.95	1		06/07/19 18:41	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19 Date Collected: 05/30/19 13:50

Client ID: DP-COMP-3 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	15.6		mg/kg	0.476	0.099	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Barium, Total	41.6		mg/kg	0.476	0.083	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Beryllium, Total	0.324		mg/kg	0.238	0.016	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Cadmium, Total	1.87		mg/kg	0.476	0.047	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Chromium, Total	9.05		mg/kg	0.476	0.046	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Copper, Total	32.3		mg/kg	0.476	0.123	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Lead, Total	20.9		mg/kg	2.38	0.128	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Manganese, Total	829		mg/kg	0.476	0.076	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.081	0.053	1	06/05/19 18:24	06/05/19 22:09	EPA 7471B	1,7471B	EA
Nickel, Total	46.0		mg/kg	1.19	0.115	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Selenium, Total	0.552	J	mg/kg	0.952	0.123	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.476	0.135	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
Zinc, Total	117		mg/kg	2.38	0.139	1	06/05/19 19:50	06/07/19 18:46	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	9.0		mg/kg	0.95	0.95	1		06/07/19 18:46	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22 Date Collected: 05/30/19 14:30

Client ID: DP-COMP-4 Date Received: 05/31/19

Sample Location: 170 JAMISON ROAD SITE Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.39		mg/kg	0.445	0.093	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Barium, Total	44.0		mg/kg	0.445	0.077	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Beryllium, Total	0.431		mg/kg	0.222	0.015	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Cadmium, Total	0.680		mg/kg	0.445	0.044	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Chromium, Total	10.6		mg/kg	0.445	0.043	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Copper, Total	20.9		mg/kg	0.445	0.115	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Lead, Total	22.0		mg/kg	2.22	0.119	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Manganese, Total	329		mg/kg	0.445	0.071	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.089	0.058	1	06/05/19 18:24	06/05/19 22:15	EPA 7471B	1,7471B	EA
Nickel, Total	18.2		mg/kg	1.11	0.108	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Selenium, Total	0.569	J	mg/kg	0.889	0.115	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.445	0.126	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
Zinc, Total	65.5		mg/kg	2.22	0.130	1	06/05/19 19:50	06/07/19 18:51	EPA 3050B	1,6010D	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	11		mg/kg	0.93	0.93	1		06/07/19 18:51	NA	107,-	

Project Name: MOOG SOIL CHARACTERIZATION SW **Lab Number:** L1923228

Project Number: 0400-017-001 **Report Date:** 06/12/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 04,07,11,15,19,22 Batch: WG1244907-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	06/05/19 19:50	06/07/19 12:32	1,6010D	LC
Barium, Total	ND		mg/kg	0.400	0.070	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Chromium, Total	ND		mg/kg	0.400	0.038	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Copper, Total	ND		mg/kg	0.400	0.103	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Lead, Total	ND		mg/kg	2.00	0.107	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Manganese, Total	ND		mg/kg	0.400	0.064	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Nickel, Total	ND		mg/kg	1.00	0.097	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Selenium, Total	ND		mg/kg	0.800	0.103	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Silver, Total	ND		mg/kg	0.400	0.113	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC
Zinc, Total	ND		mg/kg	2.00	0.117	1	06/05/19 19:50	06/06/19 12:02	1,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 04,07,11,15,19,22 Batch: WG1244917-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	06/05/19 18:24	06/05/19 21:23	1,7471B	EA

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1244907-2 SRM Lot Number: D105-540								
Arsenic, Total	95		-		70-130	-		
Barium, Total	85		-		75-125	-		
Beryllium, Total	92		-		75-125	-		
Cadmium, Total	94		-		75-125	-		
Chromium, Total	81		-		70-130	-		
Copper, Total	88		-		75-125	-		
Lead, Total	83		-		71-128	-		
Manganese, Total	86		-		76-124	-		
Nickel, Total	88		-		70-131	-		
Selenium, Total	91		-		63-137	-		
Silver, Total	85		-		69-131	-		
Zinc, Total	90		-		70-130	-		
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1244917-2 SRM Lot Number: D105-540								
Mercury, Total	79		-		60-141	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244907-3 QC Sample: L1923545-01 Client ID: MS Sample												
Arsenic, Total	7.10	11	20.5	122		-	-		75-125	-		20
Barium, Total	86.0	184	249	89		-	-		75-125	-		20
Beryllium, Total	0.150J	4.59	4.34	94		-	-		75-125	-		20
Cadmium, Total	0.561	4.68	5.08	96		-	-		75-125	-		20
Chromium, Total	11.5	18.4	31.7	110		-	-		75-125	-		20
Copper, Total	75.5	23	92.8	75		-	-		75-125	-		20
Lead, Total	96.3	46.8	171	**159**	Q	-	-		75-125	-		20
Manganese, Total	411	45.9	662	**546**	Q	-	-		75-125	-		20
Nickel, Total	10.2	45.9	60.6	110		-	-		75-125	-		20
Selenium, Total	0.798J	11	12.2	111		-	-		75-125	-		20
Silver, Total	ND	27.6	27.5	100		-	-		75-125	-		20
Zinc, Total	77.2	45.9	179	**222**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244917-3 QC Sample: L1923656-14 Client ID: MS Sample												
Mercury, Total	ND	0.178	0.187	105		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244907-4 QC Sample: L1923545-01 Client ID: DUP Sample						
Lead, Total	96.3	55.8	mg/kg	**53**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244917-4 QC Sample: L1923656-14 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-01
Client ID: SW-VOC-1
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 08:45
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-02
Client ID: SW-VOC-2
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 09:20
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.6		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-03
Client ID: SW-VOC-3
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 09:40
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.6		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-04
Client ID: SW-COMP-1
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 10:00
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	06/02/19 12:30	06/03/19 13:17	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.966	0.193	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-05
Client ID: SW-VOC-4
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 10:30
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.1		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-06
Client ID: SW-VOC-5
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 10:45
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-07
Client ID: SW-COMP-2
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 10:50
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.1		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.25	1	06/02/19 12:30	06/03/19 13:18	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.951	0.190	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-08
Client ID: DP-VOC-1
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 11:00
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-09
Client ID: DP-VOC-2
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 11:15
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.3		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-10
Client ID: DP-VOC-3
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 11:40
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-11
Client ID: DP-COMP-1
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 11:50
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	06/02/19 12:30	06/03/19 13:19	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.929	0.186	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-12
Client ID: DP-VOC-4
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 12:10
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.1		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-13
Client ID: DP-VOC-5
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 12:25
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	75.2		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-14
Client ID: DP-VOC-6
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 12:40
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-15
Client ID: DP-COMP-2
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 12:50
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	06/02/19 12:30	06/03/19 13:20	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.950	0.190	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-16
Client ID: DP-VOC-7
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 13:00
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-17
Client ID: DP-VOC-8
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 13:20
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.8		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-18
Client ID: DP-VOC-9
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 13:40
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-19
Client ID: DP-COMP-3
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 13:50
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	06/01/19 13:02	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	06/02/19 12:30	06/03/19 13:21	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.952	0.190	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-20
Client ID: DP-VOC-10
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 14:00
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	06/01/19 13:02	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-21
Client ID: DP-VOC-11
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 14:20
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.0		%	0.100	NA	1	-	06/01/19 13:02	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

SAMPLE RESULTS

Lab ID: L1923228-22
Client ID: DP-COMP-4
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 14:30
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	06/01/19 13:02	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	06/02/19 12:30	06/03/19 13:22	1,9010C/9012B	LH
Chromium, Hexavalent	ND		mg/kg	0.931	0.186	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1923228
Report Date: 06/12/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1243644-1										
Cyanide, Total	ND		mg/kg	0.96	0.20	1	06/02/19 12:30	06/03/19 12:49	1,9010C/9012B	LH
General Chemistry - Westborough Lab for sample(s): 04,07,11,15,19,22 Batch: WG1244124-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	06/03/19 20:30	06/04/19 12:44	1,7196A	NH

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1243644-2 WG1243644-3								
Cyanide, Total	**49**	Q	**47**	Q	80-120	3		35
General Chemistry - Westborough Lab Associated sample(s): 04,07,11,15,19,22 Batch: WG1244124-2								
Chromium, Hexavalent	89		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1243644-4 WG1243644-5 QC Sample: L1922826-01 Client ID: MS Sample												
Cyanide, Total	ND	10	10	96		9.6	97		75-125	4		35
General Chemistry - Westborough Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244124-4 QC Sample: L1923228-22 Client ID: DP-COMP-4												
Chromium, Hexavalent	ND	1790	1820	102		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1923228

Report Date: 06/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-18 QC Batch ID: WG1243473-1 QC Sample: L1923106-01 Client ID: DUP Sample						
Solids, Total	79.0	80.4	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 19-22 QC Batch ID: WG1243506-1 QC Sample: L1922881-01 Client ID: DUP Sample						
Solids, Total	96.7	96.3	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 04,07,11,15,19,22 QC Batch ID: WG1244124-6 QC Sample: L1923228-22 Client ID: DP-COMP-4						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-01A	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-01B	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-01C	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-01D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1923228-01X	Vial MeOH preserved split	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-01Y	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-01Z	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-02A	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-02B	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-02C	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-02D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1923228-02X	Vial MeOH preserved split	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-02Y	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-02Z	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-03A	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-03B	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-03C	5 gram Encore Sampler	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-03D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1923228-03X	Vial MeOH preserved split	C	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-03Y	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-03Z	Vial Water preserved split	C	NA		2.9	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)

*Values in parentheses indicate holding time in days

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-04A	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-04B	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-04C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-04D	Glass 500ml/16oz unpreserved	C	NA		2.9	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1923228-05A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-05B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-05C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-05D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-05X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-05Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-05Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-06A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-06B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-06C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-06D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-06X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-06Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-06Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-07A	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-07B	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-07C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-07D	Glass 500ml/16oz unpreserved	C	NA		2.9	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1923228-08A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-08B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-08C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-08D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-08X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-08Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-08Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-09A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-09B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-09C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-09D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-09X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-09Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-09Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-10A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-10B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-10C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-10D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-10X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-10Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-10Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-11A	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-11B	Glass 120ml/4oz unpreserved	B	NA		3.6	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-11C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-11D	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1923228-12A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-12B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-12C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-12D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-12X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-12Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-12Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-13A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-13B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-13C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-13D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-13X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-13Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-13Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-14A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-14B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-14C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-14D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-14X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-14Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-14Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-15A	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-15B	Glass 120ml/4oz unpreserved	B	NA		3.6	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-15C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-15D	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1923228-16A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-16B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-16C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-16D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-16X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-16Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-16Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-17A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-17B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-17C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-17D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-17X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-17Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-17Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-18A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-18B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-18C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-18D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-18X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-18Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-18Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-19A	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-19B	Glass 120ml/4oz unpreserved	B	NA		3.6	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-19C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-19D	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1923228-20A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-20B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-20C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-20D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-20X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)

*Values in parentheses indicate holding time in days

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1923228
Report Date: 06/12/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1923228-20Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-20Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:48	NYTCL-8260HLW-R2(14)
L1923228-21A	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-21B	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-21C	5 gram Encore Sampler	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-21D	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		TS(7)
L1923228-21X	Vial MeOH preserved split	B	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1923228-21Y	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:50	NYTCL-8260HLW-R2(14)
L1923228-21Z	Vial Water preserved split	B	NA		3.6	Y	Absent	01-JUN-19 07:50	NYTCL-8260HLW-R2(14)
L1923228-22A	Metals Only-Glass 60mL/2oz unpreserved	B	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),MN-TI(180),CD-TI(180)
L1923228-22B	Glass 120ml/4oz unpreserved	B	NA		3.6	Y	Absent		A2-1,4-DIOXANE-SIM(14)
L1923228-22C	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-NY-537-ISOTOPE(28)
L1923228-22D	Glass 500ml/16oz unpreserved	B	NA		3.6	Y	Absent		NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1923228
Project Number:	0400-017-001	**Report Date:**	06/12/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 3

Date Rec'd in Lab: 6/1/19

ALPHA Job #: L1923228

Client Information
Client: Benchmark Environmental
Address: 2558 Hamburg
Buffalo NY 14218
Phone: 716-856-0599
Fax:
Email: MKesakowski@hunterllc.com

Project Information
Project Name: Mack Soil Characterization - Stormwater System.
Project Location: 170 Jamison Road site.
Project # 0400-017-001
(Use Project name as Project #)
Project Manager: Cindy Fox
ALPHAQuote #:

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables
[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement
[ ] NY TOGS [ ] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information
[ ] Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

[ ] These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

CAT B.

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs (8260)	NYPart375 SVOCs	NYPart375 Metals	NYPart375 Pesticides	NYPart375 PCBs	1,4-Dioxane via 8270D-SIM	NY PFAS via EPA 537(Mod)-Isotope Dilution	Sample Specific Comments	Total Bottle
23228-01	SW-VOC-1	5/30/19	845	Sol	CCB	X								3
-02	SW-VOC-2		920			X								3
-03	SW-VOC-3		940			X								3
-04	SW-COMP-1		1000				X	X	X	X	X	X		4
-05	SW-VOC-4		10:30			X								3
-06	SW-VOC-5		10:45			X								3
-07	SW-COMP-2		1050				X	X	X	X	X	X		4

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	E	A	A	A	A	A	P	
Preservative	A	A	A	A	A	A	A	

Relinquished By:	Date/Time	Received By:	Date/Time
	5/30/19 1530		31/May/2019 1335
	31/May/2019 1335		6/1/19 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ALPHA

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 3

Date Rec'd in Lab: 6/1/19

ALPHA Job #: L1923228

Westborough, MA 01581, 8 Walkup Dr., TEL: 508-898-9220, FAX: 508-898-9193
Mansfield, MA 02048, 320 Forbes Blvd, TEL: 508-822-9300, FAX: 508-822-3288

Project Information
Project Name: Moog Soil Characterization - Stormwater System
Project Location: 170 Jamison Road Site
Project #: 0400-017-001
(Use Project name as Project #) ☐
Project Manager: Candy Fox
ALPHAQuote #:

Client Information
Client: Benchmark Environment
Address: 2558 Hamburg Turnpike, Buffalo NY. 14218
Phone: 716-856-0599
Fax:
Email: MBakowski@turnkey llc.com

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
CAT B.

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	Part 375 SVOCs	Part 375 Metals	Part 375 Pesticides	Part 375 PCBs	1,4-Dioxane via 8270D SIM	NY PFAAs via EPA 537(m)-Isotope Dilution		Sample Specific Comments	Total Bottles
23228 -08	DP-VOC-1	5/30/19	11:00	Soil	CCB	X									3
-09	DP-VOC-2	↓	11:15	↓	↓	X									3
-10	DP-VOC-3	↓	11:40	↓	↓	X									3
-11	DP-COMP-1	↓	11:50	↓	↓		X	X	X	X	X	X			4
-12	DP-VOC-4	↓	12:10	↓	↓	X									3
-13	DP-VOC-5	↓	12:25	↓	↓	X									3
-14	DP-VOC-6	↓	12:40	↓	↓	X									3
-15	DP-COMP-2	↓	12:50	↓	↓		X	X	X	X	X	X			4
-16	DP-VOC-7	↓	13:00	↓	↓	X									3
-17	DP-VOC-8	↓	13:20	↓	↓	X									3
					Container Type	E	A	A	A	A	A	P			
					Preservative	A	A	A	A	A	A	A			

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/30/19 1530	[signature] AAL	31 May 2019 1335
[signature] AAL	31 May 2019 1335	Wendy Mooney	6/1/19 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 3 of 3

Date Rec'd in Lab: 6/1/18

ALPHA Job #: L1923228

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: Moog Soil Characterization - Stormwater System
Project Location: 170 Jamison Road Site
Project #: 0400-017-001
(Use Project name as Project #) ☐
Project Manager: Cindy Fox
ALPHAQuote #:

Client Information

Client: Benchmark Environmental
Address: 2558 Hamburg Turnpike
Buffalo, NY. 14218
Phone: 716-856-0599
Fax:
Email: Mleszkowski@turnkeyllc.com

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

CAT B.

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	Part 375 SVOCs	Part 375 Metals	Part 375 Pesticides	Part 375 PCBs	1,4-Dioxane via 8270D SIM	NY PFAAs via EPA 537(M) Isotope Dilution	Sample Specific Comments	Total Bottles
23228-18	DP-VOC-9	5/30/19	13:40	Soil	CCB	X								3
-19	DP-COMP-3	↓	~~1350~~ 1350	↓	↓		X	X	X	X	X	X		4
-20	DP-VOC-10	↓	1400	↓	↓	X								3
-21	DP-VOC-11	↓	1420	↓	↓	X								3
-22	DP-COMP-4	↓	1430	↓	↓		X	X	X	X	X	X		4

Preservative Code	Container Code
A = None	P = Plastic
B = HCl	A = Amber Glass
C = HNO_3	V = Vial
D = H_2SO_4	G = Glass
E = NaOH	B = Bacteria Cup
F = MeOH	C = Cube
G = $NaHSO_4$	O = Other
H = $Na_2S_2O_3$	E = Encore
K/E = Zn Ac/NaOH	D = BOD Bottle
O = Other	

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/30/19 / 1530	[signature] AAL	31May2019 1335
[signature] AAL	31May2019 1335	Wendy Moreno [signature]	6/1/19 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1926070
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Mike Lesakowski
Phone:	(716) 856-0599
Project Name:	MOOG SOIL CHARACTERIZATION SW
Project Number:	0400-017-001
Report Date:	06/18/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1926070
Report Date: 06/18/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1926070-01	DP-VOC-1	SOIL	170 JAMISON ROAD SITE	05/30/19 11:00	05/31/19
L1926070-02	DP-VOC-2	SOIL	170 JAMISON ROAD SITE	05/30/19 11:15	05/31/19
L1926070-03	DP-VOC-3	SOIL	170 JAMISON ROAD SITE	05/30/19 11:40	05/31/19

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1926070
Project Number:	0400-017-001	**Report Date:**	06/18/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1926070
Project Number:	0400-017-001	**Report Date:**	06/18/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Amita Naik

Title: Technical Director/Representative Date: 06/18/19

METALS

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1926070
Project Number: 0400-017-001
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-01
Client ID: DP-VOC-1
Sample Location: 170 JAMISON ROAD SITE
Date Collected: 05/30/19 11:00
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.36		mg/kg	0.444	0.092	1	06/18/19 11:16	06/18/19 13:58	EPA 3050B	1,6010D	LC

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1926070
Project Number: 0400-017-001
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-02
Client ID: DP-VOC-2
Sample Location: 170 JAMISON ROAD SITE
Date Collected: 05/30/19 11:15
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	11.6		mg/kg	0.427	0.089	1	06/18/19 11:16	06/18/19 14:03	EPA 3050B	1,6010D	LC

Project Name: MOOG SOIL CHARACTERIZATION SW
Lab Number: L1926070
Project Number: 0400-017-001
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-03
Client ID: DP-VOC-3
Sample Location: 170 JAMISON ROAD SITE
Date Collected: 05/30/19 11:40
Date Received: 05/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.97		mg/kg	0.449	0.093	1	06/18/19 11:16	06/18/19 14:07	EPA 3050B	1,6010D	LC

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1926070
Report Date: 06/18/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1249814-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	06/18/19 11:16	06/18/19 13:06	1,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1926070

Report Date: 06/18/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1249814-2 SRM Lot Number: D105-540								
Arsenic, Total	94		-		70-130	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1926070
Report Date: 06/18/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1249814-3 QC Sample: L1925787-01 Client ID: MS Sample												
Arsenic, Total	2.32	10.1	12.4	100		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1926070

Report Date: 06/18/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1249814-4 QC Sample: L1925787-01 Client ID: DUP Sample						
Arsenic, Total	2.32	4.36	mg/kg	**61**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1926070
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-01
Client ID: DP-VOC-1
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 11:00
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1926070
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-02
Client ID: DP-VOC-2
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil
Date Collected: 05/30/19 11:15
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.3		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001
Lab Number: L1926070
Report Date: 06/18/19

SAMPLE RESULTS

Lab ID: L1926070-03
Client ID: DP-VOC-3
Sample Location: 170 JAMISON ROAD SITE
Sample Depth:
Matrix: Soil

Date Collected: 05/30/19 11:40
Date Received: 05/31/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	06/01/19 10:39	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: MOOG SOIL CHARACTERIZATION SW

Project Number: 0400-017-001

Lab Number: L1926070

Report Date: 06/18/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1243473-1 QC Sample: L1923106-01 Client ID: DUP Sample						
Solids, Total	79.0	80.4	%	2		20

Project Name: MOOG SOIL CHARACTERIZATION SW
Project Number: 0400-017-001

Lab Number: L1926070
Report Date: 06/18/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1926070-01A	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		AS-TI(180),TS(7)
L1926070-02A	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		AS-TI(180),TS(7)
L1926070-03A	Plastic 2oz unpreserved for TS	B	NA		3.6	Y	Absent		AS-TI(180),TS(7)

*Values in parentheses indicate holding time in days

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1926070
Project Number:	0400-017-001	**Report Date:**	06/18/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1926070
Project Number:	0400-017-001	**Report Date:**	06/18/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	MOOG SOIL CHARACTERIZATION SW	**Lab Number:**	L1926070
Project Number:	0400-017-001	**Report Date:**	06/18/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L1926070 JM 6/17/19

ALPHA — NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Page 2 of 3

Date Rec'd in Lab: 6/1/19

ALPHA Job #: ~~L1923228~~

Project Information
Project Name: Mona Soil Characterization - Stormwater System
Project Location: 170 Jamison Road Site
Project #: 0400-017-001
(Use Project name as Project #) ☐
Project Manager: Candy Fox
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information
Client: Benchmark Environment
Address: 2558 Hamburg Turnpike
Buffalo NY. 14218
Phone: 716-856-0599
Fax:
Email: mlesakowski@turnkey llc.com

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

CAT B.

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only) 26070-01	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs 8260	Part 375 SVOCs	Part 375 Metals	Part 375 Pesticides	Part 375 PCBs	1,4-Dioxane via 8270D SIM	NY PFAS via EPA 537(M)-156 ...	Total As	Sample Specific Comments	Total Bottles
~~23228-08~~	DP-VOC-1	5/30/19	11:00	Soil	CCB	X							X		3
02 -09	DP-VOC-2	↓	11:15	↓	↓	X							X		3
03 -10	DP-VOC-3		11:40			X							X		3
-11	DP-COMP-1		11:50				X	X	X	X	X	X			4
-12	DP-VOC-4		12:10			X									3
-13	DP-VOC-5		12:25			X									3
-14	DP-VOC-6		12:40			X									3
-15	DP-COMP-2		12:50				X	X	X	X	X	X			4
-16	DP-VOC-7		13:00			X									3
-17	DP-VOC-8	↓	13:20	↓	↓	X									3
					Container Type	E	A	A	A	A	A	P			
					Preservative	A	A	A	A	A	A	A			

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	5/30/19 / 1530	[signature] AAL	31 May 2019 1335
[signature] AAL	31 May 2019 1335	Wendy Moriney	6/1/19 01:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)