January 4, 2022

Ms. Carey Foster
North Star Paving and Construction, Inc.
35743 Kenai Spur Hwy Ste A
Soldotna, AK 99669

RE: Groundwater and Soil Sampling Report – North Star Pit

Dear Ms. Foster:

This letter report was prepared by Trihydro Corporation (Trihydro) to summarize results from groundwater and soil samples collected on July 15, 2021. Sampling was completed per the workplan submitted to Alaska Department of Environmental Conservation (ADEC) Groundwater May 3, 2021 and in accordance with Alaska Department of Environmental Conservation (ADEC) 2019 Field Sampling Guidance (Guidance).

Field methods, groundwater analytical results, and analytical quality assurance and quality control are summarized below.

FIELD METHODS

Groundwater Sampling

Groundwater samples were collected from the four groundwater monitoring wells (MW-1, MW-3, MW-4, and MW-5) previously installed by Travis/Peterson Environmental Consulting, Inc. (TPECI) and located near the shop building former injection well (Figure 1).

Groundwater levels were measured prior to sampling and are presented on Table 1. Following gauging, a groundwater sampling pump was inserted in the well and field parameters including temperature, conductivity, pH, turbidity, oxidation reduction potential, and dissolved oxygen were measured in the well purge water. Groundwater samples were collected after field parameters stabilized according to Guidance. Field parameter data is presented on Field Forms in Attachment 3. Groundwater samples were submitted to SGS Laboratory in Anchorage, Alaska, for the following analysis:

- Gasoline-range organics (GRO) by AK101
- Diesel-range organics (DRO) by AK102
- Residual-range organics (RRO) by AK103

Soil Sampling

Excavation from injection well excavation in 2020 produced soil stockpiles. The stockpile segregated with low or non-detected photoionization detector (PID) readings soils used to backfill the excavation and soils with greater than 20 parts per million PID readings remained to the southwest of the excavation pit, approximately eight foot wide by seventeen feet long. Trihydro followed 2019 ADEC Guidance

Table 2A for stockpile soil sampling and collected one soil sample from the location with the highest PID reading.

The soil sample was submitted to SGS Laboratory in Anchorage, Alaska, for the following analysis:

- Diesel-range organics (DRO) by AK102
- Residual-range organics (RRO) by AK103
- Volatile organic compounds (VOCs) by 8260

Surveying

On April 3, 2021, Edge Survey and Design conducted a vertical resurvey of accessible wells: surveyed top of casing elevations are included in Table 1. Survey report is included in Attachment 4.

ANALYTICAL RESULTS

Groundwater Analytical Results

Groundwater flow direction during the time of sampling is to the east-northeast, based upon 2021 survey data and Trihydro gauging data prior to sampling. Potentiometric Surface Map is included in Figure 1.

Groundwater sample analytical results are summarized in Table 2 and laboratory reports are included as Attachment 1. All groundwater results were below laboratory detection levels. The low level DRO and RRO concentrations seen in 2020 at MW-5 to the south of the maintenance shop and RRO in MW-1 to the east of the shop near the former oil/water separator were not present in 2021.

Soil Analytical Results

Soil sample analytical results are summarized in Table 3 and laboratory reports are included as Attachment 1. Sample locations are presented on Figure 1. DRO was present at 572 mg/kg and RRO at 921 mg/kg. All other analytes were non-detect. At the request of Kenai Peninsula Borough (KPB) Landfill via phone call, the stockpile was additionally sampled for GRO and Resource Conservation and Recovery Act (RCRA) toxicity characteristic leaching procedure (TCLP) metals in September 2021. All results were non-detect except for low level barium at 0.333 mg/L. Soil was transported to KPB Landfill in October 2021 and no stockpiles remain onsite.

ANALYTICAL QUALITY ASSURANCE AND QUALITY CONTROL

Trihydro completed a quality assurance/quality control (QA/QC) review of the analytical results. Results of the QA/QC review for data are summarized below and included in the Data Validation Reports and the ADEC Laboratory Data Review Checklists included in Attachment 2. The sample results are reported under SGS North America, Inc. (SGS) project numbers 1214315 and 1215797. The following summary

highlights the data evaluation findings for this sampling event, and a more detailed quality control summary is included in Attachment 2:

- No data are rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, suggest that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

CONCLUSIONS AND RECOMMENDATIONS

The groundwater data suggests soil removal efforts have likely significantly reduced the source of DRO and RRO concentrations in groundwater. No constituents were present above laboratory detection level in 2021 sampling and no stockpiles remain onsite.

Trihydro recommends groundwater sampling of the remaining 4 wells be conducted in the summer of 2022 to confirm concentration trends.

If you have any questions, please contact me at (907) 262-2315.

Sincerely,
Trihydro Corporation

Joe McElroy, P.E.
Project Engineer

74A-001-001

Attachments

TABLES

TABLE 1. GROUNDWATER ELEVATIONS
NORTH STAR PIT
SOLDOTNA, ALASKA

Location	Date Measured	Total Well Depth	Measuring Point Elevation	Depth to Water (Feet BMPE)	Groundwater Surface Elevation
MW-1	7/15/2021	17.19	101.49	11.95	89.54
MW-3	7/15/2021	22.11	101.75	12.23	89.52
MW-4	7/15/2021	13.59	98.33	8.99	89.34
MW-5	7/15/2021	13.95	97.47	8.24	89.23

Notes:
Groundwater in feet
BMPE = below measuring point elevation

TABLE 2. WATER ANALYTICAL RESULTS
NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	MW-1	MW-3	MW-4	MW-5	DUP-1	Trip Blank
			Lab Sample Id:	1214315001	1214315002	1214315003	1214315004	1214315005	1214315006
			Matrix:	Water (Surface, Eff., Ground)	Water (Surface, Eff., Ground)	Water (Surface, Eff., Ground)	Water (Surface, Eff., Ground)	Water (Surface, Eff., Ground)	Water (Surface, Eff., Ground)
			Date Sampled:	7/15/21 13:21 PM	7/15/21 11:30 AM	7/15/21 12:09 PM	7/15/21 12:45 PM	7/15/21 8:00 AM	7/15/21 8:00 AM
Analysis	**Analyte**	**Unit**	**18AAC75GW >**						
AK101	Gasoline Range Organics	mg/L	2.2	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
AK102/103 LV	Diesel Range Organics	mg/L	1.5	0.638 U	0.682 U	0.625 U	0.600 U	0.588 U	NA
AK102/103 LV	Residual Range Organics	mg/L	1.1	0.532 U	0.568 U	0.521 U	0.500 U	0.490 U	NA

Notes:

Result exceeds 18 AAC 75.345(b) Table C: Groundwater Cleanup Levels.

- No Groundwater cleanup value.

U The analyte was not detected in the sample at the estimated detection limit (EDL).

J The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).

UJ The reported result is an estimated reporting limit. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).

NA Not Analzed.

TABLE 3. SOIL ANALYTICAL RESULTS
NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
			Lab Sample Id:	1214315008	1204977009	1204977012
			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
AK102/103	Diesel Range Organics	mg/kg	250	572	675	NA
AK102/103	Residual Range Organics	mg/kg	11000	921	1100	NA
SM21 2540G	Total Solids	%	-	98.1	98	NA
SW8260D	1,1,1,2-Tetrachloroethane	ug/kg	22	21.9 U	22.1 U	20.1 U
SW8260D	1,1,1-Trichloroethane	ug/kg	32000	27.4 U	27.6 U	25.2 U
SW8260D	1,1,2,2-Tetrachloroethane	ug/kg	3	2.19 U	2.21 U	2.01 U
SW8260D	1,1,2-Trichloroethane	ug/kg	1.4	0.878 U	0.884 U	0.805 U
SW8260D	1,1-Dichloroethane	ug/kg	92	27.4 U	27.6 U	25.2 U
SW8260D	1,1-Dichloroethene	ug/kg	1200	27.4 U	27.6 U	25.2 U
SW8260D	1,1-Dichloropropene	ug/kg	-	27.4 U	27.6 U	25.2 U
SW8260D	1,2,3-Trichlorobenzene	ug/kg	150	54.9 U	55.2 U	50.3 U
SW8260D	1,2,3-Trichloropropane	ug/kg	0.031	2.19 U	2.21 U	2.01 U
SW8260D	1,2,4-Trimethylbenzene	ug/kg	610	27.4 U	27.6 U	25.2 U
SW8260D	1,2-Dibromo-3-chloropropane	ug/kg	-	110 U	111 U	101 U
SW8260D	1,2-Dibromoethane	ug/kg	0.24	1.10 U	1.10 U	1.01 U
SW8260D	1,2-Dichloroethane	ug/kg	5.5	2.19 U	2.21 U	2.01 U
SW8260D	1,2-Dichloropropane	ug/kg	30	11.0 U	11.0 U	10.1 U
SW8260D	1,3,5-Trimethylbenzene	ug/kg	660	27.4 U	27.6 U	25.2 U
SW8260D	1,3-Dichloropropane	ug/kg	-	27.4 U	27.6 U	25.2 U
SW8260D	2,2-Dichloropropane	ug/kg	-	11.0 U	11.0 U	10.1 U
SW8260D	2-Butanone (MEK)	ug/kg	15000	27.4 U	27.6 U	25.2 U
SW8260D	2-Chlorotoluene	ug/kg	-	27.4 U	27.6 U	25.2 U

TABLE 3. SOIL ANALYTICAL RESULTS
NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
			Lab Sample Id:	1214315008	1204977009	1204977012
			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8260D	2-Hexanone	ug/kg	110	110 U	111 U	101 U
SW8260D	4-Chlorotoluene	ug/kg	-	27.4 U	27.6 U	25.2 U
SW8260D	4-Isopropyltoluene	ug/kg	-	110 U	111 U	101 U
SW8260D	4-Methyl-2-pentanone (MIBK)	ug/kg	18000	274 U	276 U	276 U
SW8260D	Acetone	ug/kg	38000	274 U	276 U	276 U
SW8260D	Benzene	ug/kg	22	13.7 U	13.8 U	12.6 U
SW8260D	Bromobenzene	ug/kg	360	27.4 U	27.6 U	25.2 U
SW8260D	Bromochloromethane	ug/kg	-	27.4 U	27.6 U	25.2 U
SW8260D	Bromodichloromethane	ug/kg	4.3	2.19 U	2.21 U	2.01 U
SW8260D	Bromoform	ug/kg	100	27.4 U	27.6 U	25.2 U
SW8260D	Bromomethane	ug/kg	24	21.9 U	22.1 U	22.1 U
SW8260D	Carbon disulfide	ug/kg	2900	110 U	111 U	101 U
SW8260D	Carbon tetrachloride	ug/kg	21	13.7 U	13.8 U	12.6 U
SW8260D	Chlorobenzene	ug/kg	460	27.4 U	13.8 U	12.6 U
SW8260D	Chloroethane	ug/kg	72000	219 U	221 U	201 U
SW8260D	Chloroform	ug/kg	7.1	4.39 U	4.42 U	4.03 U
SW8260D	Chloromethane	ug/kg	610	27.4 U	27.6 U	25.2 U
SW8260D	Dibromochloromethane	ug/kg	2.7	5.49 U	5.52 U	5.52 U
SW8260D	Dibromomethane	ug/kg	25	27.4 U	27.6 U	25.2 U
SW8260D	Dichlorodifluoromethane	ug/kg	3900	54.9 U	55.2 U	50.3 U
SW8260D	Ethylbenzene	ug/kg	130	27.4 U	27.6 U	25.2 U
SW8260D	Freon-113	ug/kg	310000	110 U	111 U	101 U

TABLE 3. SOIL ANALYTICAL RESULTS
NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
			Lab Sample Id:	1214315008	1204977009	1204977012
			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8260D	Isopropylbenzene (Cumene)	ug/kg	5600	27.4 U	27.6 U	25.2 U
SW8260D	Methyl-t-butyl ether	ug/kg	400	110 U	110 U	101 U
SW8260D	Methylene chloride	ug/kg	330	110 U	110 U	101 U
SW8260D	P & M -Xylene	ug/kg	-	54.9 U	55.2 U	50.3 U
SW8260D	Styrene	ug/kg	10000	27.4 U	27.6 U	25.2 U
SW8260D	Tetrachloroethene	ug/kg	190	13.7 U	13.8 U	12.6 U
SW8260D	Toluene	ug/kg	6700	27.4 U	27.6 U	25.2 U
SW8260D	Trichloroethene	ug/kg	11	5.49 U	5.52 U	5.52 U
SW8260D	Trichlorofluoromethane	ug/kg	41000	54.9 U	55.2 U	50.3 U
SW8260D	Vinyl acetate	ug/kg	1100	110 U	110 U	101 U
SW8260D	Vinyl chloride	ug/kg	0.8	0.878 U	0.884 U	0.805 U
SW8260D	Xylenes (total)	ug/kg	1500	82.3 U	82.8 U	75.5 U
SW8260D	cis-1,2-Dichloroethene	ug/kg	120	27.4 U	27.6 U	25.2 U
SW8260D	cis-1,3-Dichloropropene	ug/kg	18	13.7 U	13.8 U	12.6 U
SW8260D	n-Butylbenzene	ug/kg	23000	27.4 U	27.6 U	25.2 U
SW8260D	n-Propylbenzene	ug/kg	9100	27.4 U	27.6 U	25.2 U
SW8260D	o-Xylene	ug/kg	-	27.4 U	27.6 U	25.2 U
SW8260D	sec-Butylbenzene	ug/kg	42000	27.4 U	27.6 U	25.2 U
SW8260D	tert-Butylbenzene	ug/kg	11000	27.4 U	27.6 U	25.2 U
SW8260D	trans-1,2-Dichloroethene	ug/kg	1300	27.4 U	27.6 U	25.2 U
SW8260D	trans-1,3-Dichloropropene	ug/kg	18	13.7 U	13.8 U	12.6 U
SW8270D	1,2,4-Trichlorobenzene	mg/kg	0.082	1.27 U	1.26 U	NA

TABLE 3. SOIL ANALYTICAL RESULTS
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SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
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			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8270D	1,2-Dichlorobenzene	mg/kg	2.4	1.27 U	1.26 U	NA
SW8270D	1,3-Dichlorobenzene	mg/kg	2.3	1.27 U	1.26 U	NA
SW8270D	1,4-Dichlorobenzene	mg/kg	0.037	1.27 U	1.26 U	NA
SW8270D	1-Chloronaphthalene	mg/kg	26	1.27 U	1.26 U	NA
SW8270D	1-Methylnaphthalene	mg/kg	0.41	1.27 U	1.26 U	NA
SW8270D	2,4,5-Trichlorophenol	mg/kg	28	1.27 U	1.26 U	NA
SW8270D	2,4,6-Trichlorophenol	mg/kg	0.092	1.27 U	1.26 U	NA
SW8270D	2,4-Dichlorophenol	mg/kg	0.21	1.27 U	1.26 U	NA
SW8270D	2,4-Dimethylphenol	mg/kg	3.2	1.27 U	1.26 U	NA
SW8270D	2,4-Dinitrophenol	mg/kg	0.34	15.2 U	15.2 U	NA
SW8270D	2,4-Dinitrotoluene	mg/kg	0.024	1.27 U	1.26 U	NA
SW8270D	2,6-Dichlorophenol	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	2,6-Dinitrotoluene	mg/kg	0.005	1.27 U	1.26 U	NA
SW8270D	2-Chloronaphthalene	mg/kg	26	1.27 U	1.26 U	NA
SW8270D	2-Chlorophenol	mg/kg	0.71	1.27 U	1.26 U	NA
SW8270D	2-Methyl-4,6-dinitrophenol	mg/kg	-	10.1 U	10.1 U	NA
SW8270D	2-Methylnaphthalene	mg/kg	1.3	1.27 U	1.26 U	NA
SW8270D	2-Methylphenol (o-Cresol)	mg/kg	6.2	1.27 U	1.26 U	NA
SW8270D	2-Nitroaniline	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	2-Nitrophenol	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	3&4-Methylphenol (p&m-Cresc	mg/kg	18.1	5.07 U	5.07 U	NA
SW8270D	3,3-Dichlorobenzidine	mg/kg	0.056	2.53 U	2.53 U	NA

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SOLDOTNA, ALASKA

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			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8270D	3-Nitroaniline	mg/kg	-	2.53 U	2.53 U	NA
SW8270D	4-Bromophenyl-phenylether	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	4-Chloro-3-methylphenol	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	4-Chloroaniline	mg/kg	0.015	5.07 U	5.07 U	NA
SW8270D	4-Chlorophenyl-phenylether	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	4-Nitroaniline	mg/kg	-	15.2 U	15.2 U	NA
SW8270D	4-Nitrophenol	mg/kg	-	10.1 U	10.1 U	NA
SW8270D	Acenaphthene	mg/kg	37	1.27 U	1.26 U	NA
SW8270D	Acenaphthylene	mg/kg	18	1.27 U	1.26 U	NA
SW8270D	Aniline	mg/kg	-	10.1 U	10.1 U	NA
SW8270D	Anthracene	mg/kg	390	1.27 U	1.26 U	NA
SW8270D	Azobenzene	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	Benzo(a)Anthracene	mg/kg	0.7	1.27 U	1.26 U	NA
SW8270D	Benzo[a]pyrene	mg/kg	1.9	1.27 U	1.26 U	NA
SW8270D	Benzo[b]Fluoranthene	mg/kg	20	1.27 U	1.26 U	NA
SW8270D	Benzo[g,h,i]perylene	mg/kg	15000	1.27 U	1.26 U	NA
SW8270D	Benzo[k]fluoranthene	mg/kg	190	1.27 U	1.26 U	NA
SW8270D	Benzoic acid	mg/kg	200	7.60 U	7.60 U	NA
SW8270D	Benzyl alcohol	mg/kg	5.7	1.27 U	1.26 U	NA
SW8270D	Bis(2-Chloroethoxy)methane	mg/kg	-	1.27 U	1.26 U	NA
SW8270D	Bis(2-Chloroethyl)ether	mg/kg	0.00042	1.27 U	1.26 U	NA
SW8270D	Bis(2chloro1methylethyl)Ether	mg/kg	-	1.27 U	1.26 U	NA

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NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
			Lab Sample Id:	1214315008	1204977009	1204977012
			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8270D	Butylbenzylphthalate	mg/kg	16	1.27 U	1.26 U	NA
SW8270D	Carbazole	mg/kg	100	1.27 U	1.26 U	NA
SW8270D	Chrysene	mg/kg	600	1.27 U	1.26 U	NA
SW8270D	Di-n-butylphthalate	mg/kg	16	1.27 U	1.26 U	NA
SW8270D	Dibenzo[a,h]anthracene	mg/kg	6.3	1.27 U	1.26 U	NA
SW8270D	Dibenzofuran	mg/kg	0.97	1.27 U	1.26 U	NA
SW8270D	Diethylphthalate	mg/kg	60	1.27 U	1.26 U	NA
SW8270D	Dimethylphthalate	mg/kg	48	1.27 U	1.26 U	NA
SW8270D	Fluoranthene	mg/kg	590	1.27 U	1.26 U	NA
SW8270D	Fluorene	mg/kg	36	1.27 U	1.26 U	NA
SW8270D	Hexachlorobenzene	mg/kg	0.0082	1.27 U	1.26 U	NA
SW8270D	Hexachlorobutadiene	mg/kg	0.02	1.27 U	1.26 U	NA
SW8270D	Hexachlorocyclopentadiene	mg/kg	0.0093	3.55 U	3.55 U	NA
SW8270D	Hexachloroethane	mg/kg	0.018	1.27 U	1.26 U	NA
SW8270D	Indeno[1,2,3-c,d] pyrene	mg/kg	65	1.27 U	1.26 U	NA
SW8270D	Isophorone	mg/kg	2.7	1.27 U	1.26 U	NA
SW8270D	N-Nitroso-di-n-propylamine	mg/kg	0.00068	1.27 U	1.26 U	NA
SW8270D	N-Nitrosodimethylamine	mg/kg	3.3x10^-6	1.27 U	1.26 U	NA
SW8270D	N-Nitrosodiphenylamine	mg/kg	4.6	1.27 U	1.26 U	NA
SW8270D	Naphthalene	mg/kg	0.038	1.27 U	1.26 U	NA
SW8270D	Nitrobenzene	mg/kg	0.0079	1.27 U	1.26 U	NA
SW8270D	Pentachlorophenol	mg/kg	0.0043	10.1 U	10.1 U	NA

TABLE 3. SOIL ANALYTICAL RESULTS
NORTH STAR PIT
SOLDOTNA, ALASKA

			Client Sample Id:	SP-1	DUP-SP-1	Trip Blank
			Lab Sample Id:	1214315008	1204977009	1204977012
			Matrix:	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)
			Date Sampled:	7/15/2021 14:25	7/15/2021 8:00	7/15/2021 8:00
Analysis	**Analyte**	**Unit**	**18AAC75MigGW >**			
SW8270D	Phenanthrene	mg/kg	39	1.27 U	1.26 U	NA
SW8270D	Phenol	mg/kg	29	1.27 U	1.26 U	NA
SW8270D	Pyrene	mg/kg	87	1.27 U	1.26 U	NA
SW8270D	bis(2-Ethylhexyl)phthalate	mg/kg	88	1.27 U	1.26 U	NA
SW8270D	di-n-Octylphthalate	mg/kg	370	2.53 U	2.53 U	NA

			Client Sample Id:	SP-1
			Lab Sample Id:	1215797001
			Matrix:	Soil/Solid (dry weight)
			Date Sampled:	9/7/2021 13:30
SM21 2540G	Total Solids	%	-	89.4
SW6020B	Arsenic	mg/L		0.500 U
SW6020B	Barium	mg/L		0.333
SW6020B	Cadmium	mg/L		0.100 U

FIGURE

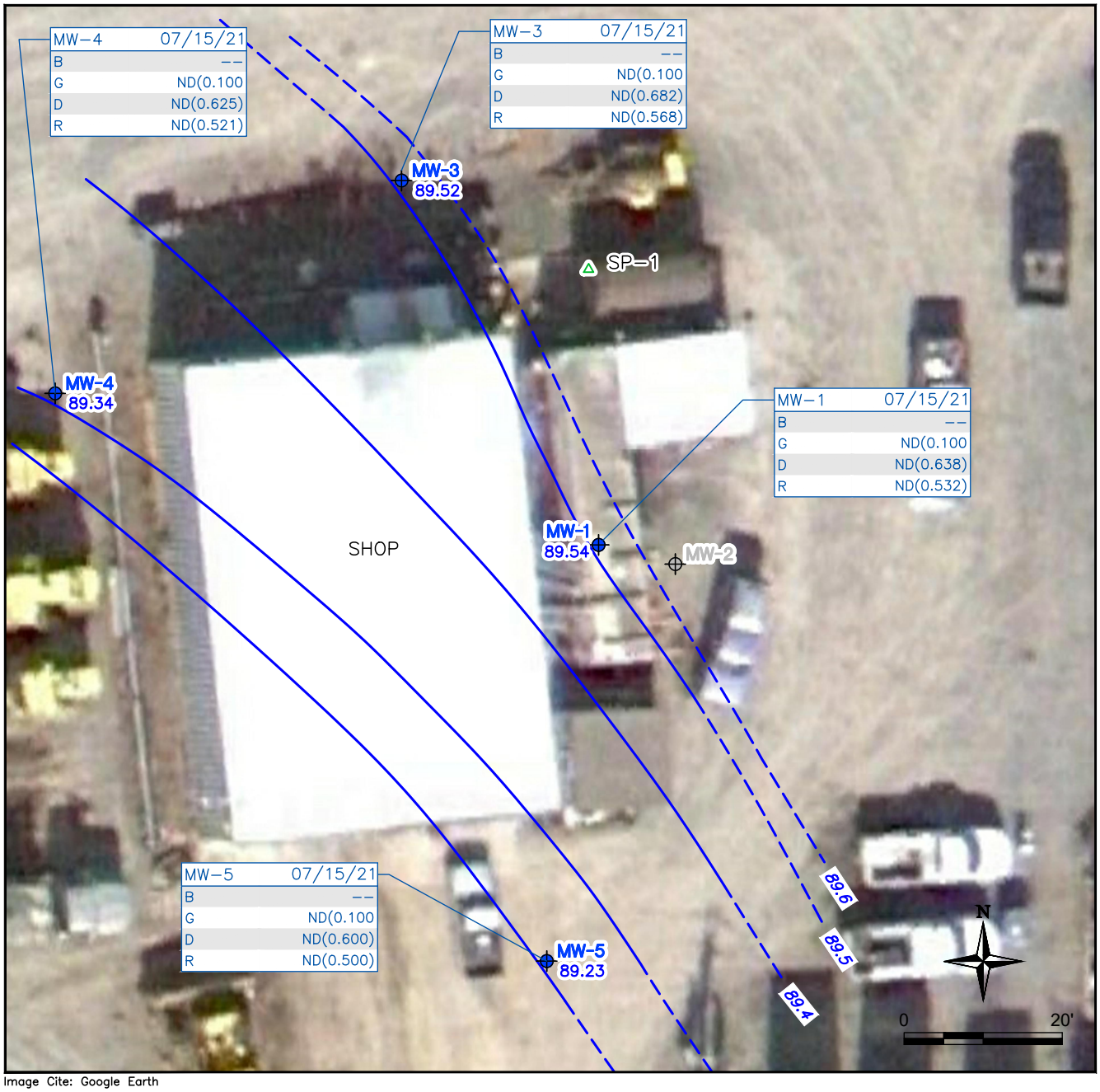

Image Cite: Google Earth

EXPLANATION

- EXISTING MONITORING WELL LOCATION (INSTALLED DURING PHASE 2 INVESTIGATION)
- REMOVED OR DESTROYED MONITORING WELL LOCATION
- 89.2 — POTENTIOMETRIC SURFACE ELEVATION (DASHED WHERE APPROXIMATE)
- SOIL SAMPLE LOCATION

ANALYTE TABLE EXPLANATION

WELL DESIGNATION →	MW-5	07/15/21 ← SAMPLE DATE
BENZENE →	B	-- ← VALUES ARE IN MICROGRAMS PER LITER (µg/L)
GASOLINE RANGE ORGANICS →	G	ND(0.100
DIESEL RANGE ORGANICS →	D	ND(0.600)
RESIDUAL RANGE ORGANICS →	R	ND(0.500)

VALUE IS IN MILLIGRAMS PER LITER (mg/L)

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

DRAFT

FIGURE 1

GROUNDWATER SAMPLING MAP

NORTH STAR PIT SITE
SOLDOTNA, ALASKA

Drawn By: BJ	Checked By: BF	Scale: 1" = 20'	Date: 10/12/2020	File: 2021 NORTHSTARPAVING

C:\USERS\BJONES\TRIHYDRO\NORTH STAR PAVING & CONSTRUCTION - DOCUMENTS\CADD\2021 NORTHSTARPAVING

ATTACHMENT 1

LABORATORY REPORT

Laboratory Report of Analysis

To: Trihydro Corporation
312 Tyee Street
Soldotna, AK 99669
307-461-6104

Report Number: **1214315**

Client Project: **North Star Paving**

Dear Maya Lehl,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Chuck at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Stephen C. Ede
Stephen C. Ede 2021.08.09
13:37:10 -08'00'

Chuck Homestead
Project Manager
Charles.Homestead@sgs.com

Date

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Trihydro Corporation**
SGS Project: **1214315**
Project Name/Site: **North Star Paving**
Project Contact: **Maya Lehl**

Refer to sample receipt form for information on sample condition.

SP-1 (1214315008) PS

8270D - The LOQs are elevated due to sample dilution. The sample was analyzed at a dilution due to a high concentration of non-target compounds.

DUP-SP-1 (1214315009) PS

8270D - The LOQs are elevated due to sample dilution. The sample was analyzed at a dilution due to a high concentration of non-target compounds.

LCS for HBN 1822934 [XXX/45228 (1625490) LCS

8270D - LCS recoveries for several analytes do not meet QC criteria. These analytes were not reported above the LOQ in the associated samples.

1214315008(1626130MS) (1626131) MS

8260D - MS recoveries for n-Butylbenzene and Hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.

1214350001(1627404MS) (1627405) MS

8270D - MS recoveries for several analytes do not meet QC criteria.

1214315008(1626130MSD) (1626132) MSD

8260D - MSD recoveries for n-Butylbenzene and Hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements.

1214350001(1627404MSD) (1627406) MSD

8270D - MSD recoveries for several analytes do not meet QC criteria.
8270D - MS/MSD RPDs for several analytes do not meet QC criteria. These analytes were not reported above the LOQ in the parent sample.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
SW8270D				
1627536	CCV for HBN 1823413 (XMS/12795	XMS12795	Aniline	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

Print Date: 08/06/2021 4:48:20PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/27/2021 for Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
MW-1	1214315001	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
MW-3	1214315002	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
MW-4	1214315003	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
MW-5	1214315004	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
DUP-1	1214315005	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
Trip Blank	1214315006	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
EB-7-15	1214315007	07/15/2021	07/16/2021	Water (Surface, Eff., Ground)
SP-1	1214315008	07/15/2021	07/16/2021	Soil/Solid (dry weight)
DUP-SP-1	1214315009	07/15/2021	07/16/2021	Soil/Solid (dry weight)
Trip Blank	1214315010	07/15/2021	07/16/2021	Soil/Solid (dry weight)

Method	Method Description
AK102	Diesel/Residual Range Organics
AK103	Diesel/Residual Range Organics
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
AK101	Gasoline Range Organics (W)
SM21 2540G	Percent Solids SM2540G
SW8270D	SW846 8270 Semi-Volatiles by GC/MS (S)
SW8260D	VOC 8260 (S) Field Extracted

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Detectable Results Summary

Client Sample ID: **SP-1**
Lab Sample ID: 1214315008
Semivolatile Organic Fuels

Parameter	Result	Units
Diesel Range Organics	572	mg/kg
Residual Range Organics	921	mg/kg

Client Sample ID: **DUP-SP-1**
Lab Sample ID: 1214315009
Semivolatile Organic Fuels

Parameter	Result	Units
Diesel Range Organics	675	mg/kg
Residual Range Organics	1100	mg/kg

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Results of **MW-1**

Client Sample ID: **MW-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315001
Lab Project ID: 1214315

Collection Date: 07/15/21 13:21
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.638	U	0.638	0.191	mg/L	1		07/27/21 17:08
Surrogates								
5a Androstane (surr)	98.1		50-150		%	1		07/27/21 17:08

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Analyst: A.A
Analytical Date/Time: 07/27/21 17:08
Container ID: 1214315001-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.532	U	0.532	0.160	mg/L	1		07/27/21 17:08
Surrogates								
n-Triacontane-d62 (surr)	106		50-150		%	1		07/27/21 17:08

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Analyst: A.A
Analytical Date/Time: 07/27/21 17:08
Container ID: 1214315001-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-1**

Client Sample ID: **MW-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315001
Lab Project ID: 1214315

Collection Date: 07/15/21 13:21
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 20:47
Surrogates								
4-Bromofluorobenzene (surr)	68.1		50-150		%	1		07/20/21 20:47

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 20:47
Container ID: 1214315001-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315002
Lab Project ID: 1214315

Collection Date: 07/15/21 11:30
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.682	U	0.682	0.205	mg/L	1		07/27/21 17:18
Surrogates								
5a Androstane (surr)	93.5		50-150		%	1		07/27/21 17:18

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Analyst: A.A
Analytical Date/Time: 07/27/21 17:18
Container ID: 1214315002-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 220 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.568	U	0.568	0.170	mg/L	1		07/27/21 17:18
Surrogates								
n-Triacontane-d62 (surr)	103		50-150		%	1		07/27/21 17:18

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Analyst: A.A
Analytical Date/Time: 07/27/21 17:18
Container ID: 1214315002-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 220 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-3**

Client Sample ID: **MW-3**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315002
Lab Project ID: 1214315

Collection Date: 07/15/21 11:30
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 21:05
Surrogates								
4-Bromofluorobenzene (surr)	67.9		50-150		%	1		07/20/21 21:05

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 21:05
Container ID: 1214315002-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315003
Lab Project ID: 1214315

Collection Date: 07/15/21 12:09
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.625	U	0.625	0.188	mg/L	1		07/27/21 17:28
Surrogates								
5a Androstane (surr)	97.5		50-150		%	1		07/27/21 17:28

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Analyst: A.A
Analytical Date/Time: 07/27/21 17:28
Container ID: 1214315003-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.521	U	0.521	0.156	mg/L	1		07/27/21 17:28
Surrogates								
n-Triacontane-d62 (surr)	104		50-150		%	1		07/27/21 17:28

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Analyst: A.A
Analytical Date/Time: 07/27/21 17:28
Container ID: 1214315003-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-4**

Client Sample ID: **MW-4**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315003
Lab Project ID: 1214315

Collection Date: 07/15/21 12:09
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 21:24
Surrogates								
4-Bromofluorobenzene (surr)	66.9		50-150		%	1		07/20/21 21:24

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 21:24
Container ID: 1214315003-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315004
Lab Project ID: 1214315

Collection Date: 07/15/21 12:45
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.600	U	0.600	0.180	mg/L	1		07/27/21 17:38
Surrogates								
5a Androstane (surr)	86.4		50-150		%	1		07/27/21 17:38

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Analyst: A.A
Analytical Date/Time: 07/27/21 17:38
Container ID: 1214315004-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.500	U	0.500	0.150	mg/L	1		07/27/21 17:38
Surrogates								
n-Triacontane-d62 (surr)	95.7		50-150		%	1		07/27/21 17:38

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Analyst: A.A
Analytical Date/Time: 07/27/21 17:38
Container ID: 1214315004-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **MW-5**

Client Sample ID: **MW-5**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315004
Lab Project ID: 1214315

Collection Date: 07/15/21 12:45
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 22:36
Surrogates								
4-Bromofluorobenzene (surr)	65		50-150		%	1		07/20/21 22:36

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 22:36
Container ID: 1214315004-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-1**

Client Sample ID: **DUP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315005
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.588	U	0.588	0.176	mg/L	1		07/27/21 17:48
Surrogates								
5a Androstane (surr)	98.1		50-150		%	1		07/27/21 17:48

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Analyst: A.A
Analytical Date/Time: 07/27/21 17:48
Container ID: 1214315005-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.490	U	0.490	0.147	mg/L	1		07/27/21 17:48
Surrogates								
n-Triacontane-d62 (surr)	100		50-150		%	1		07/27/21 17:48

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Analyst: A.A
Analytical Date/Time: 07/27/21 17:48
Container ID: 1214315005-D

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 07/26/21 18:30
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-1**

Client Sample ID: **DUP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315005
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 22:55
Surrogates								
4-Bromofluorobenzene (surr)	65.2		50-150		%	1		07/20/21 22:55

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 22:55
Container ID: 1214315005-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315006
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1		07/20/21 22:18
Surrogates								
4-Bromofluorobenzene (surr)	69.8		50-150		%	1		07/20/21 22:18

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/20/21 22:18
Container ID: 1214315006-A

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 07/20/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **EB-7-15**

Client Sample ID: **EB-7-15**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315007
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0450	mg/L	1		07/29/21 17:05
Surrogates								
4-Bromofluorobenzene (surr)	94.1		50-150		%	1		07/29/21 17:05

Batch Information

Analytical Batch: VFC15741
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/29/21 17:05
Container ID: 1214315007-B

Prep Batch: VXX37534
Prep Method: SW5030B
Prep Date/Time: 07/29/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	572		20.2	6.26	mg/kg	1		07/21/21 20:30
Surrogates								
5a Androstane (surr)	103		50-150		%	1		07/21/21 20:30

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 07/21/21 20:30
Container ID: 1214315008-B

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 07/21/21 13:44
Prep Initial Wt./Vol.: 30.276 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	921		101	43.4	mg/kg	1		07/21/21 20:30
Surrogates								
n-Triacontane-d62 (surr)	101		50-150		%	1		07/21/21 20:30

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK103
Analyst: IVM
Analytical Date/Time: 07/21/21 20:30
Container ID: 1214315008-B

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 07/21/21 13:44
Prep Initial Wt./Vol.: 30.276 g
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
1,2-Dichlorobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
1,3-Dichlorobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
1,4-Dichlorobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
1-Chloronaphthalene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
1-Methylnaphthalene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,4,5-Trichlorophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,4,6-Trichlorophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,4-Dichlorophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,4-Dimethylphenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,4-Dinitrophenol	15.2	U	15.2	4.76	mg/kg	5		08/03/21 19:05
2,4-Dinitrotoluene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,6-Dichlorophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2,6-Dinitrotoluene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Chloronaphthalene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Chlorophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Methyl-4,6-dinitrophenol	10.1	U	10.1	3.14	mg/kg	5		08/03/21 19:05
2-Methylnaphthalene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Methylphenol (o-Cresol)	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Nitroaniline	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
2-Nitrophenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
3&4-Methylphenol (p&m-Cresol)	5.07	U	5.07	1.57	mg/kg	5		08/03/21 19:05
3,3-Dichlorobenzidine	2.53	U	2.53	0.760	mg/kg	5		08/03/21 19:05
3-Nitroaniline	2.53	U	2.53	0.760	mg/kg	5		08/03/21 19:05
4-Bromophenyl-phenylether	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
4-Chloro-3-methylphenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
4-Chloroaniline	5.07	U	5.07	1.57	mg/kg	5		08/03/21 19:05
4-Chlorophenyl-phenylether	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
4-Nitroaniline	15.2	U	15.2	4.76	mg/kg	5		08/03/21 19:05
4-Nitrophenol	10.1	U	10.1	3.14	mg/kg	5		08/03/21 19:05
Acenaphthene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Acenaphthylene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Aniline	10.1	U	10.1	3.14	mg/kg	5		08/03/21 19:05
Anthracene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Azobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Benzo(a)Anthracene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[a]pyrene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Benzo[b]Fluoranthene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Benzo[g,h,i]perylene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Benzo[k]fluoranthene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Benzoic acid	7.60	U	7.60	2.38	mg/kg	5		08/03/21 19:05
Benzyl alcohol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Bis(2chloro1methylethyl)Ether	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Bis(2-Chloroethoxy)methane	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Bis(2-Chloroethyl)ether	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
bis(2-Ethylhexyl)phthalate	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Butylbenzylphthalate	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Carbazole	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Chrysene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Dibenzo[a,h]anthracene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Dibenzofuran	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Diethylphthalate	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Dimethylphthalate	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Di-n-butylphthalate	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
di-n-Octylphthalate	2.53	U	2.53	0.760	mg/kg	5		08/03/21 19:05
Fluoranthene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Fluorene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Hexachlorobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Hexachlorobutadiene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Hexachlorocyclopentadiene	3.55	U	3.55	1.01	mg/kg	5		08/03/21 19:05
Hexachloroethane	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Indeno[1,2,3-c,d] pyrene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Isophorone	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Naphthalene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Nitrobenzene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
N-Nitrosodimethylamine	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
N-Nitroso-di-n-propylamine	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
N-Nitrosodiphenylamine	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Pentachlorophenol	10.1	U	10.1	3.14	mg/kg	5		08/03/21 19:05
Phenanthrene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Phenol	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05
Pyrene	1.27	U	1.27	0.395	mg/kg	5		08/03/21 19:05

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Surrogates								
2,4,6-Tribromophenol (surr)	94.1		35-125		%	5		08/03/21 19:05
2-Fluorobiphenyl (surr)	68.7		44-115		%	5		08/03/21 19:05
2-Fluorophenol (surr)	56.2		35-115		%	5		08/03/21 19:05
Nitrobenzene-d5 (surr)	61		37-122		%	5		08/03/21 19:05
Phenol-d6 (surr)	67.3		33-122		%	5		08/03/21 19:05
Terphenyl-d14 (surr)	101		54-127		%	5		08/03/21 19:05

Batch Information

Analytical Batch: XMS12797
Analytical Method: SW8270D
Analyst: NRB
Analytical Date/Time: 08/03/21 19:05
Container ID: 1214315008-C

Prep Batch: XXX45228
Prep Method: SW3550C
Prep Date/Time: 07/25/21 08:35
Prep Initial Wt./Vol.: 22.632 g
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	21.9	U	21.9	6.80	ug/kg	1		07/27/21 14:34
1,1,1-Trichloroethane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,1,2,2-Tetrachloroethane	2.19	U	2.19	0.680	ug/kg	1		07/27/21 14:34
1,1,2-Trichloroethane	0.878	U	0.878	0.274	ug/kg	1		07/27/21 14:34
1,1-Dichloroethane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,1-Dichloroethene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,1-Dichloropropene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,2,3-Trichlorobenzene	54.9	U	54.9	16.5	ug/kg	1		07/27/21 14:34
1,2,3-Trichloropropane	2.19	U	2.19	0.680	ug/kg	1		07/27/21 14:34
1,2,4-Trichlorobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,2,4-Trimethylbenzene	54.9	U	54.9	16.5	ug/kg	1		07/27/21 14:34
1,2-Dibromo-3-chloropropane	110	U	110	34.0	ug/kg	1		07/27/21 14:34
1,2-Dibromoethane	1.10	U	1.10	0.439	ug/kg	1		07/27/21 14:34
1,2-Dichlorobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,2-Dichloroethane	2.19	U	2.19	0.768	ug/kg	1		07/27/21 14:34
1,2-Dichloropropane	11.0	U	11.0	3.40	ug/kg	1		07/27/21 14:34
1,3,5-Trimethylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,3-Dichlorobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
1,3-Dichloropropane	11.0	U	11.0	3.40	ug/kg	1		07/27/21 14:34
1,4-Dichlorobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
2,2-Dichloropropane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
2-Butanone (MEK)	274	U	274	85.6	ug/kg	1		07/27/21 14:34
2-Chlorotoluene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
2-Hexanone	110	U	110	34.0	ug/kg	1		07/27/21 14:34
4-Chlorotoluene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
4-Isopropyltoluene	110	U	110	27.4	ug/kg	1		07/27/21 14:34
4-Methyl-2-pentanone (MIBK)	274	U	274	85.6	ug/kg	1		07/27/21 14:34
Acetone	274	U	274	85.6	ug/kg	1		07/27/21 14:34
Benzene	13.7	U	13.7	4.28	ug/kg	1		07/27/21 14:34
Bromobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Bromochloromethane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Bromodichloromethane	2.19	U	2.19	0.680	ug/kg	1		07/27/21 14:34
Bromoform	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Bromomethane	21.9	U	21.9	6.80	ug/kg	1		07/27/21 14:34
Carbon disulfide	110	U	110	34.0	ug/kg	1		07/27/21 14:34
Carbon tetrachloride	13.7	U	13.7	4.28	ug/kg	1		07/27/21 14:34

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Chloroethane	219	U	219	68.0	ug/kg	1		07/27/21 14:34
Chloroform	4.39	U	4.39	1.10	ug/kg	1		07/27/21 14:34
Chloromethane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
cis-1,2-Dichloroethene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
cis-1,3-Dichloropropene	13.7	U	13.7	4.28	ug/kg	1		07/27/21 14:34
Dibromochloromethane	5.49	U	5.49	1.65	ug/kg	1		07/27/21 14:34
Dibromomethane	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Dichlorodifluoromethane	54.9	U	54.9	16.5	ug/kg	1		07/27/21 14:34
Ethylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Freon-113	110	U	110	34.0	ug/kg	1		07/27/21 14:34
Hexachlorobutadiene	21.9	U	21.9	6.80	ug/kg	1		07/27/21 14:34
Isopropylbenzene (Cumene)	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Methylene chloride	110	U	110	34.0	ug/kg	1		07/27/21 14:34
Methyl-t-butyl ether	110	U	110	34.0	ug/kg	1		07/27/21 14:34
Naphthalene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
n-Butylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
n-Propylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
o-Xylene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
P & M -Xylene	54.9	U	54.9	16.5	ug/kg	1		07/27/21 14:34
sec-Butylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Styrene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
tert-Butylbenzene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
Tetrachloroethene	13.7	U	13.7	4.28	ug/kg	1		07/27/21 14:34
Toluene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
trans-1,2-Dichloroethene	27.4	U	27.4	8.56	ug/kg	1		07/27/21 14:34
trans-1,3-Dichloropropene	13.7	U	13.7	4.28	ug/kg	1		07/27/21 14:34
Trichloroethene	5.49	U	5.49	1.65	ug/kg	1		07/27/21 14:34
Trichlorofluoromethane	54.9	U	54.9	16.5	ug/kg	1		07/27/21 14:34
Vinyl acetate	110	U	110	34.0	ug/kg	1		07/27/21 14:34
Vinyl chloride	0.878	U	0.878	0.274	ug/kg	1		07/27/21 14:34
Xylenes (total)	82.3	U	82.3	25.0	ug/kg	1		07/27/21 14:34
Surrogates								
1,2-Dichloroethane-D4 (surr)	115		71-136		%	1		07/27/21 14:34
4-Bromofluorobenzene (surr)	105		55-151		%	1		07/27/21 14:34
Toluene-d8 (surr)	99.1		85-116		%	1		07/27/21 14:34

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Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315008
Lab Project ID: 1214315

Collection Date: 07/15/21 14:25
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed

Batch Information

Analytical Batch: VMS20975
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/27/21 14:34
Container ID: 1214315008-A

Prep Batch: VXX37511
Prep Method: SW5035A
Prep Date/Time: 07/15/21 14:25
Prep Initial Wt./Vol.: 48.161 g
Prep Extract Vol: 25.9171 mL

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	675		20.3	6.30	mg/kg	1		07/21/21 20:40
Surrogates								
5a Androstane (surr)	118		50-150		%	1		07/21/21 20:40

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 07/21/21 20:40
Container ID: 1214315009-B

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 07/21/21 13:44
Prep Initial Wt./Vol.: 30.11 g
Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1100		102	43.7	mg/kg	1		07/21/21 20:40
Surrogates								
n-Triacontane-d62 (surr)	111		50-150		%	1		07/21/21 20:40

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK103
Analyst: IVM
Analytical Date/Time: 07/21/21 20:40
Container ID: 1214315009-B

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 07/21/21 13:44
Prep Initial Wt./Vol.: 30.11 g
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trichlorobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
1,2-Dichlorobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
1,3-Dichlorobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
1,4-Dichlorobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
1-Chloronaphthalene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
1-Methylnaphthalene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,4,5-Trichlorophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,4,6-Trichlorophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,4-Dichlorophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,4-Dimethylphenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,4-Dinitrophenol	15.2	U	15.2	4.75	mg/kg	5		08/03/21 19:22
2,4-Dinitrotoluene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,6-Dichlorophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2,6-Dinitrotoluene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Chloronaphthalene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Chlorophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Methyl-4,6-dinitrophenol	10.1	U	10.1	3.13	mg/kg	5		08/03/21 19:22
2-Methylnaphthalene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Methylphenol (o-Cresol)	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Nitroaniline	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
2-Nitrophenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
3&4-Methylphenol (p&m-Cresol)	5.06	U	5.06	1.57	mg/kg	5		08/03/21 19:22
3,3-Dichlorobenzidine	2.53	U	2.53	0.758	mg/kg	5		08/03/21 19:22
3-Nitroaniline	2.53	U	2.53	0.758	mg/kg	5		08/03/21 19:22
4-Bromophenyl-phenylether	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
4-Chloro-3-methylphenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
4-Chloroaniline	5.06	U	5.06	1.57	mg/kg	5		08/03/21 19:22
4-Chlorophenyl-phenylether	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
4-Nitroaniline	15.2	U	15.2	4.75	mg/kg	5		08/03/21 19:22
4-Nitrophenol	10.1	U	10.1	3.13	mg/kg	5		08/03/21 19:22
Acenaphthene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Acenaphthylene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Aniline	10.1	U	10.1	3.13	mg/kg	5		08/03/21 19:22
Anthracene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Azobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Benzo(a)Anthracene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22

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Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzo[a]pyrene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Benzo[b]Fluoranthene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Benzo[g,h,i]perylene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Benzo[k]fluoranthene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Benzoic acid	7.58	U	7.58	2.38	mg/kg	5		08/03/21 19:22
Benzyl alcohol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Bis(2chloro1methylethyl)Ether	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Bis(2-Chloroethoxy)methane	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Bis(2-Chloroethyl)ether	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
bis(2-Ethylhexyl)phthalate	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Butylbenzylphthalate	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Carbazole	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Chrysene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Dibenzo[a,h]anthracene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Dibenzofuran	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Diethylphthalate	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Dimethylphthalate	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Di-n-butylphthalate	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
di-n-Octylphthalate	2.53	U	2.53	0.758	mg/kg	5		08/03/21 19:22
Fluoranthene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Fluorene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Hexachlorobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Hexachlorobutadiene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Hexachlorocyclopentadiene	3.54	U	3.54	1.01	mg/kg	5		08/03/21 19:22
Hexachloroethane	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Indeno[1,2,3-c,d] pyrene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Isophorone	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Naphthalene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Nitrobenzene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
N-Nitrosodimethylamine	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
N-Nitroso-di-n-propylamine	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
N-Nitrosodiphenylamine	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Pentachlorophenol	10.1	U	10.1	3.13	mg/kg	5		08/03/21 19:22
Phenanthrene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Phenol	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22
Pyrene	1.26	U	1.26	0.394	mg/kg	5		08/03/21 19:22

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Surrogates								
2,4,6-Tribromophenol (surr)	95.6		35-125		%	5		08/03/21 19:22
2-Fluorobiphenyl (surr)	61.8		44-115		%	5		08/03/21 19:22
2-Fluorophenol (surr)	44.6		35-115		%	5		08/03/21 19:22
Nitrobenzene-d5 (surr)	49.4		37-122		%	5		08/03/21 19:22
Phenol-d6 (surr)	54.7		33-122		%	5		08/03/21 19:22
Terphenyl-d14 (surr)	100		54-127		%	5		08/03/21 19:22

Batch Information

Analytical Batch: XMS12797
Analytical Method: SW8270D
Analyst: NRB
Analytical Date/Time: 08/03/21 19:22
Container ID: 1214315009-B

Prep Batch: XXX45228
Prep Method: SW3550C
Prep Date/Time: 07/25/21 08:35
Prep Initial Wt./Vol.: 22.709 g
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	22.1	U	22.1	6.85	ug/kg	1		07/27/21 14:51
1,1,1-Trichloroethane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,1,2,2-Tetrachloroethane	2.21	U	2.21	0.685	ug/kg	1		07/27/21 14:51
1,1,2-Trichloroethane	0.884	U	0.884	0.276	ug/kg	1		07/27/21 14:51
1,1-Dichloroethane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,1-Dichloroethene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,1-Dichloropropene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,2,3-Trichlorobenzene	55.2	U	55.2	16.6	ug/kg	1		07/27/21 14:51
1,2,3-Trichloropropane	2.21	U	2.21	0.685	ug/kg	1		07/27/21 14:51
1,2,4-Trichlorobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,2,4-Trimethylbenzene	55.2	U	55.2	16.6	ug/kg	1		07/27/21 14:51
1,2-Dibromo-3-chloropropane	110	U	110	34.2	ug/kg	1		07/27/21 14:51
1,2-Dibromoethane	1.10	U	1.10	0.442	ug/kg	1		07/27/21 14:51
1,2-Dichlorobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,2-Dichloroethane	2.21	U	2.21	0.773	ug/kg	1		07/27/21 14:51
1,2-Dichloropropane	11.0	U	11.0	3.42	ug/kg	1		07/27/21 14:51
1,3,5-Trimethylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,3-Dichlorobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
1,3-Dichloropropane	11.0	U	11.0	3.42	ug/kg	1		07/27/21 14:51
1,4-Dichlorobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
2,2-Dichloropropane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
2-Butanone (MEK)	276	U	276	86.1	ug/kg	1		07/27/21 14:51
2-Chlorotoluene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
2-Hexanone	110	U	110	34.2	ug/kg	1		07/27/21 14:51
4-Chlorotoluene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
4-Isopropyltoluene	110	U	110	27.6	ug/kg	1		07/27/21 14:51
4-Methyl-2-pentanone (MIBK)	276	U	276	86.1	ug/kg	1		07/27/21 14:51
Acetone	276	U	276	86.1	ug/kg	1		07/27/21 14:51
Benzene	13.8	U	13.8	4.31	ug/kg	1		07/27/21 14:51
Bromobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Bromochloromethane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Bromodichloromethane	2.21	U	2.21	0.685	ug/kg	1		07/27/21 14:51
Bromoform	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Bromomethane	22.1	U	22.1	6.85	ug/kg	1		07/27/21 14:51
Carbon disulfide	110	U	110	34.2	ug/kg	1		07/27/21 14:51
Carbon tetrachloride	13.8	U	13.8	4.31	ug/kg	1		07/27/21 14:51

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Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Chloroethane	221	U	221	68.5	ug/kg	1		07/27/21 14:51
Chloroform	4.42	U	4.42	1.10	ug/kg	1		07/27/21 14:51
Chloromethane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
cis-1,2-Dichloroethene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
cis-1,3-Dichloropropene	13.8	U	13.8	4.31	ug/kg	1		07/27/21 14:51
Dibromochloromethane	5.52	U	5.52	1.66	ug/kg	1		07/27/21 14:51
Dibromomethane	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Dichlorodifluoromethane	55.2	U	55.2	16.6	ug/kg	1		07/27/21 14:51
Ethylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Freon-113	110	U	110	34.2	ug/kg	1		07/27/21 14:51
Hexachlorobutadiene	22.1	U	22.1	6.85	ug/kg	1		07/27/21 14:51
Isopropylbenzene (Cumene)	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Methylene chloride	110	U	110	34.2	ug/kg	1		07/27/21 14:51
Methyl-t-butyl ether	110	U	110	34.2	ug/kg	1		07/27/21 14:51
Naphthalene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
n-Butylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
n-Propylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
o-Xylene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
P & M -Xylene	55.2	U	55.2	16.6	ug/kg	1		07/27/21 14:51
sec-Butylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Styrene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
tert-Butylbenzene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
Tetrachloroethene	13.8	U	13.8	4.31	ug/kg	1		07/27/21 14:51
Toluene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
trans-1,2-Dichloroethene	27.6	U	27.6	8.61	ug/kg	1		07/27/21 14:51
trans-1,3-Dichloropropene	13.8	U	13.8	4.31	ug/kg	1		07/27/21 14:51
Trichloroethene	5.52	U	5.52	1.66	ug/kg	1		07/27/21 14:51
Trichlorofluoromethane	55.2	U	55.2	16.6	ug/kg	1		07/27/21 14:51
Vinyl acetate	110	U	110	34.2	ug/kg	1		07/27/21 14:51
Vinyl chloride	0.884	U	0.884	0.276	ug/kg	1		07/27/21 14:51
Xylenes (total)	82.8	U	82.8	25.2	ug/kg	1		07/27/21 14:51
Surrogates								
1,2-Dichloroethane-D4 (surr)	115		71-136		%	1		07/27/21 14:51
4-Bromofluorobenzene (surr)	108		55-151		%	1		07/27/21 14:51
Toluene-d8 (surr)	99.3		85-116		%	1		07/27/21 14:51

Print Date: 08/06/2021 4:48:28PM

Results of **DUP-SP-1**

Client Sample ID: **DUP-SP-1**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315009
Lab Project ID: 1214315

Collection Date: 07/15/21 09:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):98.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed

Batch Information

Analytical Batch: VMS20975
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/27/21 14:51
Container ID: 1214315009-A

Prep Batch: VXX37511
Prep Method: SW5035A
Prep Date/Time: 07/15/21 09:00
Prep Initial Wt./Vol.: 47.968 g
Prep Extract Vol: 25.9594 mL

Print Date: 08/06/2021 4:48:28PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315010
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	20.1	U	20.1	6.24	ug/kg	1		07/27/21 14:18
1,1,1-Trichloroethane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,1,2,2-Tetrachloroethane	2.01	U	2.01	0.624	ug/kg	1		07/27/21 14:18
1,1,2-Trichloroethane	0.805	U	0.805	0.252	ug/kg	1		07/27/21 14:18
1,1-Dichloroethane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,1-Dichloroethene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,1-Dichloropropene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,2,3-Trichlorobenzene	50.3	U	50.3	15.1	ug/kg	1		07/27/21 14:18
1,2,3-Trichloropropane	2.01	U	2.01	0.624	ug/kg	1		07/27/21 14:18
1,2,4-Trichlorobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,2,4-Trimethylbenzene	50.3	U	50.3	15.1	ug/kg	1		07/27/21 14:18
1,2-Dibromo-3-chloropropane	101	U	101	31.2	ug/kg	1		07/27/21 14:18
1,2-Dibromoethane	1.01	U	1.01	0.403	ug/kg	1		07/27/21 14:18
1,2-Dichlorobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,2-Dichloroethane	2.01	U	2.01	0.705	ug/kg	1		07/27/21 14:18
1,2-Dichloropropane	10.1	U	10.1	3.12	ug/kg	1		07/27/21 14:18
1,3,5-Trimethylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,3-Dichlorobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
1,3-Dichloropropane	10.1	U	10.1	3.12	ug/kg	1		07/27/21 14:18
1,4-Dichlorobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
2,2-Dichloropropane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
2-Butanone (MEK)	252	U	252	78.5	ug/kg	1		07/27/21 14:18
2-Chlorotoluene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
2-Hexanone	101	U	101	31.2	ug/kg	1		07/27/21 14:18
4-Chlorotoluene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
4-Isopropyltoluene	101	U	101	25.2	ug/kg	1		07/27/21 14:18
4-Methyl-2-pentanone (MIBK)	252	U	252	78.5	ug/kg	1		07/27/21 14:18
Acetone	252	U	252	78.5	ug/kg	1		07/27/21 14:18
Benzene	12.6	U	12.6	3.93	ug/kg	1		07/27/21 14:18
Bromobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Bromochloromethane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Bromodichloromethane	2.01	U	2.01	0.624	ug/kg	1		07/27/21 14:18
Bromoform	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Bromomethane	20.1	U	20.1	6.24	ug/kg	1		07/27/21 14:18
Carbon disulfide	101	U	101	31.2	ug/kg	1		07/27/21 14:18
Carbon tetrachloride	12.6	U	12.6	3.93	ug/kg	1		07/27/21 14:18

Print Date: 08/06/2021 4:48:28PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315010
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chlorobenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Chloroethane	201	U	201	62.4	ug/kg	1		07/27/21 14:18
Chloroform	4.03	U	4.03	1.01	ug/kg	1		07/27/21 14:18
Chloromethane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
cis-1,2-Dichloroethene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
cis-1,3-Dichloropropene	12.6	U	12.6	3.93	ug/kg	1		07/27/21 14:18
Dibromochloromethane	5.03	U	5.03	1.51	ug/kg	1		07/27/21 14:18
Dibromomethane	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Dichlorodifluoromethane	50.3	U	50.3	15.1	ug/kg	1		07/27/21 14:18
Ethylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Freon-113	101	U	101	31.2	ug/kg	1		07/27/21 14:18
Hexachlorobutadiene	20.1	U	20.1	6.24	ug/kg	1		07/27/21 14:18
Isopropylbenzene (Cumene)	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Methylene chloride	101	U	101	31.2	ug/kg	1		07/27/21 14:18
Methyl-t-butyl ether	101	U	101	31.2	ug/kg	1		07/27/21 14:18
Naphthalene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
n-Butylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
n-Propylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
o-Xylene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
P & M -Xylene	50.3	U	50.3	15.1	ug/kg	1		07/27/21 14:18
sec-Butylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Styrene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
tert-Butylbenzene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
Tetrachloroethene	12.6	U	12.6	3.93	ug/kg	1		07/27/21 14:18
Toluene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
trans-1,2-Dichloroethene	25.2	U	25.2	7.85	ug/kg	1		07/27/21 14:18
trans-1,3-Dichloropropene	12.6	U	12.6	3.93	ug/kg	1		07/27/21 14:18
Trichloroethene	5.03	U	5.03	1.51	ug/kg	1		07/27/21 14:18
Trichlorofluoromethane	50.3	U	50.3	15.1	ug/kg	1		07/27/21 14:18
Vinyl acetate	101	U	101	31.2	ug/kg	1		07/27/21 14:18
Vinyl chloride	0.805	U	0.805	0.252	ug/kg	1		07/27/21 14:18
Xylenes (total)	75.5	U	75.5	23.0	ug/kg	1		07/27/21 14:18
Surrogates								
1,2-Dichloroethane-D4 (surr)	111		71-136		%	1		07/27/21 14:18
4-Bromofluorobenzene (surr)	105		55-151		%	1		07/27/21 14:18
Toluene-d8 (surr)	98.9		85-116		%	1		07/27/21 14:18

Print Date: 08/06/2021 4:48:28PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **North Star Paving**
Lab Sample ID: 1214315010
Lab Project ID: 1214315

Collection Date: 07/15/21 08:00
Received Date: 07/16/21 08:51
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed

Batch Information

Analytical Batch: VMS20975
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 07/27/21 14:18
Container ID: 1214315010-A

Prep Batch: VXX37511
Prep Method: SW5035A
Prep Date/Time: 07/15/21 08:00
Prep Initial Wt./Vol.: 49.665 g
Prep Extract Vol: 25 mL

Print Date: 08/06/2021 4:48:28PM

Method Blank

Blank ID: MB for HBN 1822539 [SPT/11325]
Blank Lab ID: 1623938

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	100			%

Batch Information

Analytical Batch: SPT11325
Analytical Method: SM21 2540G
Instrument:
Analyst: TMM
Analytical Date/Time: 7/16/2021 5:30:00PM

Print Date: 08/06/2021 4:48:32PM

Duplicate Sample Summary

Original Sample ID: 1214278001
Duplicate Sample ID: 1623939
QC for Samples:

Analysis Date: 07/16/2021 17:30
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	98.9	98.8	%	0.10	(< 15)

Batch Information

Analytical Batch: SPT11325
Analytical Method: SM21 2540G
Instrument:
Analyst: TMM

Print Date: 08/06/2021 4:48:34PM

Duplicate Sample Summary

Original Sample ID: 1214278004
Duplicate Sample ID: 1623940

Analysis Date: 07/16/2021 17:30
Matrix: Soil/Solid (dry weight)

QC for Samples:

1214315008

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	97.3	97.5	%	0.23	(< 15)

Batch Information

Analytical Batch: SPT11325
Analytical Method: SM21 2540G
Instrument:
Analyst: TMM

Print Date: 08/06/2021 4:48:34PM

Duplicate Sample Summary

Original Sample ID: 1214315008
Duplicate Sample ID: 1623941

QC for Samples:

1214315008, 1214315009

Analysis Date: 07/16/2021 17:30
Matrix: Soil/Solid (dry weight)

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	98.1	98.0	%	0.05	(< 15)

Batch Information

Analytical Batch: SPT11325
Analytical Method: SM21 2540G
Instrument:
Analyst: TMM

Print Date: 08/06/2021 4:48:34PM

Method Blank

Blank ID: MB for HBN 1822668 [VXX/37459]
Blank Lab ID: 1624531

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1214315001, 1214315002, 1214315003, 1214315004, 1214315005, 1214315006

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	70.3	50-150		%

Batch Information

Analytical Batch: VFC15722
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: MDT
Analytical Date/Time: 7/20/2021 10:52:00AM

Prep Batch: VXX37459
Prep Method: SW5030B
Prep Date/Time: 7/20/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:39PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [VXX37459]
Blank Spike Lab ID: 1624534
Date Analyzed: 07/20/2021 11:46

Spike Duplicate ID: LCSD for HBN 1214315 [VXX37459]
Spike Duplicate Lab ID: 1624535
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1214315001, 1214315002, 1214315003, 1214315004, 1214315005, 1214315006

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.937	94	1.00	0.941	94	(60-120)	0.34	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		86	0.0500		87	(50-150)	1.10	

Batch Information

Analytical Batch: **VFC15722**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **MDT**

Prep Batch: **VXX37459**
Prep Method: **SW5030B**
Prep Date/Time: **07/20/2021 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:43PM

Method Blank

Blank ID: MB for HBN 1823107 [VXX/37511]
Blank Lab ID: 1626128

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009, 1214315010

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/kg
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	ug/kg
1,1,2-Trichloroethane	0.400U	0.800	0.250	ug/kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/kg
1,2,3-Trichloropropane	1.00U	2.00	0.620	ug/kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/kg
1,2-Dibromoethane	0.500U	1.00	0.400	ug/kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,2-Dichloroethane	1.00U	2.00	0.700	ug/kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/kg
2-Butanone (MEK)	125U	250	78.0	ug/kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/kg
2-Hexanone	50.0U	100	31.0	ug/kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/kg
4-Isopropyltoluene	50.0U	100	25.0	ug/kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/kg
Acetone	125U	250	78.0	ug/kg
Benzene	6.25U	12.5	3.90	ug/kg
Bromobenzene	12.5U	25.0	7.80	ug/kg
Bromochloromethane	12.5U	25.0	7.80	ug/kg
Bromodichloromethane	1.00U	2.00	0.620	ug/kg
Bromoform	12.5U	25.0	7.80	ug/kg
Bromomethane	10.0U	20.0	6.20	ug/kg
Carbon disulfide	50.0U	100	31.0	ug/kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/kg
Chlorobenzene	12.5U	25.0	7.80	ug/kg
Chloroethane	100U	200	62.0	ug/kg

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Method Blank

Blank ID: MB for HBN 1823107 [VXX/37511]
Blank Lab ID: 1626128

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009, 1214315010

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
Chloroform	2.00U	4.00	1.00	ug/kg
Chloromethane	12.5U	25.0	7.80	ug/kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/kg
Dibromochloromethane	2.50U	5.00	1.50	ug/kg
Dibromomethane	12.5U	25.0	7.80	ug/kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/kg
Ethylbenzene	12.5U	25.0	7.80	ug/kg
Freon-113	50.0U	100	31.0	ug/kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/kg
Methylene chloride	50.0U	100	31.0	ug/kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/kg
Naphthalene	12.5U	25.0	7.80	ug/kg
n-Butylbenzene	12.5U	25.0	7.80	ug/kg
n-Propylbenzene	12.5U	25.0	7.80	ug/kg
o-Xylene	12.5U	25.0	7.80	ug/kg
P & M -Xylene	25.0U	50.0	15.0	ug/kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/kg
Styrene	12.5U	25.0	7.80	ug/kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/kg
Tetrachloroethene	6.25U	12.5	3.90	ug/kg
Toluene	12.5U	25.0	7.80	ug/kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/kg
Trichloroethene	2.50U	5.00	1.50	ug/kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/kg
Vinyl acetate	50.0U	100	31.0	ug/kg
Vinyl chloride	0.400U	0.800	0.250	ug/kg
Xylenes (total)	37.5U	75.0	22.8	ug/kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	109	71-136		%
4-Bromofluorobenzene (surr)	102	55-151		%
Toluene-d8 (surr)	97.1	85-116		%

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Method Blank

Blank ID: MB for HBN 1823107 [VXX/37511]
Blank Lab ID: 1626128

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009, 1214315010

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS20975
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: S.S
Analytical Date/Time: 7/27/2021 10:04:00AM

Prep Batch: VXX37511
Prep Method: SW5035A
Prep Date/Time: 7/27/2021 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 08/06/2021 4:48:46PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [VXX37511]
Blank Spike Lab ID: 1626129
Date Analyzed: 07/27/2021 10:20

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009, 1214315010

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
1,1,1,2-Tetrachloroethane	750	783	104	(78-125)
1,1,1-Trichloroethane	750	681	91	(73-130)
1,1,2,2-Tetrachloroethane	750	835	111	(70-124)
1,1,2-Trichloroethane	750	828	110	(78-121)
1,1-Dichloroethane	750	672	90	(76-125)
1,1-Dichloroethene	750	636	85	(70-131)
1,1-Dichloropropene	750	703	94	(76-125)
1,2,3-Trichlorobenzene	750	809	108	(66-130)
1,2,3-Trichloropropane	750	799	107	(73-125)
1,2,4-Trichlorobenzene	750	815	109	(67-129)
1,2,4-Trimethylbenzene	750	803	107	(75-123)
1,2-Dibromo-3-chloropropane	750	806	107	(61-132)
1,2-Dibromoethane	750	826	110	(78-122)
1,2-Dichlorobenzene	750	784	105	(78-121)
1,2-Dichloroethane	750	665	89	(73-128)
1,2-Dichloropropane	750	744	99	(76-123)
1,3,5-Trimethylbenzene	750	812	108	(73-124)
1,3-Dichlorobenzene	750	784	105	(77-121)
1,3-Dichloropropane	750	807	108	(77-121)
1,4-Dichlorobenzene	750	795	106	(75-120)
2,2-Dichloropropane	750	696	93	(67-133)
2-Butanone (MEK)	2250	2120	94	(51-148)
2-Chlorotoluene	750	793	106	(75-122)
2-Hexanone	2250	2430	108	(53-145)
4-Chlorotoluene	750	794	106	(72-124)
4-Isopropyltoluene	750	796	106	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2260	101	(65-135)
Acetone	2250	2110	94	(36-164)
Benzene	750	728	97	(77-121)
Bromobenzene	750	807	108	(78-121)
Bromochloromethane	750	684	91	(78-125)
Bromodichloromethane	750	725	97	(75-127)
Bromoform	750	789	105	(67-132)

Print Date: 08/06/2021 4:48:50PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [VXX37511]
Blank Spike Lab ID: 1626129
Date Analyzed: 07/27/2021 10:20

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009, 1214315010

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
Bromomethane	750	652	87	(53-143)
Carbon disulfide	1130	919	82	(63-132)
Carbon tetrachloride	750	681	91	(70-135)
Chlorobenzene	750	736	98	(79-120)
Chloroethane	750	723	96	(59-139)
Chloroform	750	700	93	(78-123)
Chloromethane	750	658	88	(50-136)
cis-1,2-Dichloroethene	750	694	93	(77-123)
cis-1,3-Dichloropropene	750	782	104	(74-126)
Dibromochloromethane	750	828	110	(74-126)
Dibromomethane	750	711	95	(78-125)
Dichlorodifluoromethane	750	607	81	(29-149)
Ethylbenzene	750	717	96	(76-122)
Freon-113	1130	928	82	(66-136)
Hexachlorobutadiene	750	799	106	(61-135)
Isopropylbenzene (Cumene)	750	746	100	(68-134)
Methylene chloride	750	710	95	(70-128)
Methyl-t-butyl ether	1130	1030	92	(73-125)
Naphthalene	750	819	109	(62-129)
n-Butylbenzene	750	799	107	(70-128)
n-Propylbenzene	750	793	106	(73-125)
o-Xylene	750	743	99	(77-123)
P & M -Xylene	1500	1420	95	(77-124)
sec-Butylbenzene	750	777	104	(73-126)
Styrene	750	755	101	(76-124)
tert-Butylbenzene	750	791	105	(73-125)
Tetrachloroethene	750	745	99	(73-128)
Toluene	750	728	97	(77-121)
trans-1,2-Dichloroethene	750	675	90	(74-125)
trans-1,3-Dichloropropene	750	760	101	(71-130)
Trichloroethene	750	741	99	(77-123)
Trichlorofluoromethane	750	858	114	(62-140)
Vinyl acetate	750	775	103	(50-151)

Print Date: 08/06/2021 4:48:50PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [VXX37511]
Blank Spike Lab ID: 1626129
Date Analyzed: 07/27/2021 10:20

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009, 1214315010

Results by **SW8260D**

	Blank Spike (ug/kg)			
Parameter	Spike	Result	Rec (%)	CL
Vinyl chloride	750	659	88	(56-135)
Xylenes (total)	2250	2170	96	(78-124)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750		93	(71-136)
4-Bromofluorobenzene (surr)	750		97	(55-151)
Toluene-d8 (surr)	750		99	(85-116)

Batch Information

Analytical Batch: **VMS20975**
Analytical Method: **SW8260D**
Instrument: **VQA 7890/5975 GC/MS**
Analyst: **S.S**

Prep Batch: **VXX37511**
Prep Method: **SW5035A**
Prep Date/Time: **07/27/2021 06:00**
Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/06/2021 4:48:50PM

Matrix Spike Summary

Original Sample ID: 1626130
MS Sample ID: 1626131 MS
MSD Sample ID: 1626132 MSD

Analysis Date: 07/27/2021 14:34
Analysis Date: 07/27/2021 12:22
Analysis Date: 07/27/2021 12:39
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1214315008, 1214315009, 1214315010

Results by **SW8260D**

		Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	10.4U	779	799	103	779	834	107	78-125	4.30	(< 20)
1,1,1-Trichloroethane	13.0U	779	733	94	779	745	96	73-130	1.70	(< 20)
1,1,2,2-Tetrachloroethane	1.04U	779	909	117	779	929	119	70-124	2.20	(< 20)
1,1,2-Trichloroethane	0.415U	779	893	115	779	939	121	78-121	5.00	(< 20)
1,1-Dichloroethane	13.0U	779	702	90	779	719	92	76-125	2.50	(< 20)
1,1-Dichloroethene	13.0U	779	694	89	779	698	90	70-131	0.60	(< 20)
1,1-Dichloropropene	13.0U	779	739	95	779	751	96	76-125	1.60	(< 20)
1,2,3-Trichlorobenzene	25.9U	779	874	112	779	972	125	66-130	10.70	(< 20)
1,2,3-Trichloropropane	1.04U	779	863	111	779	827	106	73-125	4.30	(< 20)
1,2,4-Trichlorobenzene	13.0U	779	892	115	779	959	123	67-129	7.20	(< 20)
1,2,4-Trimethylbenzene	25.9U	779	850	109	779	853	110	75-123	0.27	(< 20)
1,2-Dibromo-3-chloropropane	52.0U	779	853	110	779	893	115	61-132	4.60	(< 20)
1,2-Dibromoethane	0.520U	779	890	114	779	939	121	78-122	5.30	(< 20)
1,2-Dichlorobenzene	13.0U	779	814	105	779	834	107	78-121	2.40	(< 20)
1,2-Dichloroethane	1.04U	779	705	91	779	728	94	73-128	3.20	(< 20)
1,2-Dichloropropane	5.20U	779	770	99	779	793	102	76-123	3.00	(< 20)
1,3,5-Trimethylbenzene	13.0U	779	853	110	779	814	105	73-124	4.70	(< 20)
1,3-Dichlorobenzene	13.0U	779	815	105	779	825	106	77-121	1.20	(< 20)
1,3-Dichloropropane	5.20U	779	854	110	779	901	116	77-121	5.30	(< 20)
1,4-Dichlorobenzene	13.0U	779	820	105	779	823	106	75-120	0.25	(< 20)
2,2-Dichloropropane	13.0U	779	734	94	779	749	96	67-133	2.00	(< 20)
2-Butanone (MEK)	130U	2340	2260	97	2340	2410	103	51-148	6.60	(< 20)
2-Chlorotoluene	13.0U	779	813	104	779	817	105	75-122	0.48	(< 20)
2-Hexanone	52.0U	2340	2630	113	2340	2830	121	53-145	7.40	(< 20)
4-Chlorotoluene	13.0U	779	817	105	779	803	103	72-124	1.80	(< 20)
4-Isopropyltoluene	52.0U	779	940	121	779	936	120	73-127	0.50	(< 20)
4-Methyl-2-pentanone (MIBK)	130U	2340	2400	103	2340	2580	111	65-135	7.20	(< 20)
Acetone	130U	2340	2270	97	2340	2410	103	36-164	5.70	(< 20)
Benzene	6.50U	779	744	96	779	757	97	77-121	1.80	(< 20)
Bromobenzene	13.0U	779	832	107	779	836	107	78-121	0.50	(< 20)
Bromochloromethane	13.0U	779	712	92	779	728	94	78-125	2.20	(< 20)
Bromodichloromethane	1.04U	779	764	98	779	787	101	75-127	3.00	(< 20)
Bromoform	13.0U	779	861	111	779	910	117	67-132	5.60	(< 20)
Bromomethane	10.4U	779	743	95	779	760	98	53-143	2.30	(< 20)
Carbon disulfide	52.0U	1170	1020	87	1170	1020	88	63-132	0.76	(< 20)
Carbon tetrachloride	6.50U	779	737	95	779	743	96	70-135	0.88	(< 20)
Chlorobenzene	13.0U	779	770	99	779	796	102	79-120	3.30	(< 20)

Print Date: 08/06/2021 4:48:52PM

Matrix Spike Summary

Original Sample ID: 1626130
MS Sample ID: 1626131 MS
MSD Sample ID: 1626132 MSD

QC for Samples: 1214315008, 1214315009, 1214315010

Analysis Date: 07/27/2021 14:34
Analysis Date: 07/27/2021 12:22
Analysis Date: 07/27/2021 12:39
Matrix: Solid/Soil (Wet Weight)

Results by **SW8260D**

		Matrix Spike (ug/kg)				Spike Duplicate (ug/kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Chloroethane	104U	779	801	103		779	791	102		59-139	1.30	(< 20)
Chloroform	2.08U	779	734	94		779	752	97		78-123	2.40	(< 20)
Chloromethane	13.0U	779	683	88		779	691	89		50-136	1.30	(< 20)
cis-1,2-Dichloroethene	13.0U	779	675	87		779	725	93		77-123	7.20	(< 20)
cis-1,3-Dichloropropene	6.50U	779	806	104		779	845	109		74-126	4.70	(< 20)
Dibromochloromethane	2.60U	779	901	116		779	944	121		74-126	4.70	(< 20)
Dibromomethane	13.0U	779	749	96		779	774	100		78-125	3.30	(< 20)
Dichlorodifluoromethane	25.9U	779	579	74		779	581	75		29-149	0.45	(< 20)
Ethylbenzene	13.0U	779	739	95		779	762	98		76-122	3.00	(< 20)
Freon-113	52.0U	1170	1030	88		1170	1040	89		66-136	0.75	(< 20)
Hexachlorobutadiene	10.4U	779	2070	266	*	779	2160	278	*	61-135	4.30	(< 20)
Isopropylbenzene (Cumene)	13.0U	779	770	99		779	786	101		68-134	2.10	(< 20)
Methylene chloride	52.0U	779	706	91		779	714	92		70-128	1.20	(< 20)
Methyl-t-butyl ether	52.0U	1170	1060	91		1170	1120	96		73-125	5.40	(< 20)
Naphthalene	13.0U	779	844	108		779	934	120		62-129	10.10	(< 20)
n-Butylbenzene	13.0U	779	1090	140	*	779	1090	140	*	70-128	0.02	(< 20)
n-Propylbenzene	13.0U	779	843	108		779	841	108		73-125	0.25	(< 20)
o-Xylene	13.0U	779	760	98		779	776	100		77-123	2.10	(< 20)
P & M -Xylene	25.9U	1560	1460	94		1560	1500	96		77-124	2.20	(< 20)
sec-Butylbenzene	13.0U	779	940	121		779	926	119		73-126	1.50	(< 20)
Styrene	13.0U	779	774	99		779	802	103		76-124	3.60	(< 20)
tert-Butylbenzene	13.0U	779	874	112		779	865	111		73-125	1.10	(< 20)
Tetrachloroethene	6.50U	779	798	102		779	817	105		73-128	2.40	(< 20)
Toluene	13.0U	779	760	98		779	787	101		77-121	3.50	(< 20)
trans-1,2-Dichloroethene	13.0U	779	717	92		779	731	94		74-125	1.90	(< 20)
trans-1,3-Dichloropropene	6.50U	779	824	106		779	863	111		71-130	4.60	(< 20)
Trichloroethene	2.60U	779	779	100		779	795	102		77-123	2.00	(< 20)
Trichlorofluoromethane	25.9U	779	1070	138		779	962	124		62-140	10.80	(< 20)
Vinyl acetate	52.0U	779	826	106		779	872	112		50-151	5.30	(< 20)
Vinyl chloride	0.415U	779	739	95		779	741	95		56-135	0.28	(< 20)
Xylenes (total)	39.0U	2340	2220	95		2340	2270	97		78-124	2.20	(< 20)
Surrogates												
1,2-Dichloroethane-D4 (surr)		779	755	97		779	757	97		71-136	0.21	
4-Bromofluorobenzene (surr)		1300	1300	100		1300	1310	101		55-151	0.88	
Toluene-d8 (surr)		779	777	100		779	786	101		85-116	1.20	

Print Date: 08/06/2021 4:48:52PM

Matrix Spike Summary

Original Sample ID: 1626130
MS Sample ID: 1626131 MS
MSD Sample ID: 1626132 MSD

QC for Samples: 1214315008, 1214315009, 1214315010

Analysis Date:
Analysis Date: 07/27/2021 12:22
Analysis Date: 07/27/2021 12:39
Matrix: Solid/Soil (Wet Weight)

Results by **SW8260D**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS20975
Analytical Method: SW8260D
Instrument: VQA 7890/5975 GC/MS
Analyst: S.S
Analytical Date/Time: 7/27/2021 12:22:00PM

Prep Batch: VXX37511
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 7/27/2021 6:00:00AM
Prep Initial Wt./Vol.: 48.16g
Prep Extract Vol: 25.00mL

Print Date: 08/06/2021 4:48:52PM

Method Blank

Blank ID: MB for HBN 1823244 [VXX/37534]
Blank Lab ID: 1626761

QC for Samples:
1214315007

Matrix: Water (Surface, Eff., Ground)

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0450	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	86	50-150		%

Batch Information

Analytical Batch: VFC15741
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: MDT
Analytical Date/Time: 7/29/2021 9:39:00AM

Prep Batch: VXX37534
Prep Method: SW5030B
Prep Date/Time: 7/29/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:55PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [VXX37534]
Blank Spike Lab ID: 1626762
Date Analyzed: 07/29/2021 10:33

Spike Duplicate ID: LCSD for HBN 1214315 [VXX37534]
Spike Duplicate Lab ID: 1626763
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1214315007

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.996	100	1.00	0.934	93	(60-120)	6.40	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		99	0.0500		95	(50-150)	4.10	

Batch Information

Analytical Batch: **VFC15741**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **MDT**

Prep Batch: **VXX37534**
Prep Method: **SW5030B**
Prep Date/Time: **07/29/2021 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 08/06/2021 4:48:58PM

Method Blank

Blank ID: MB for HBN 1822754 [XXX/45205]
Blank Lab ID: 1624620

QC for Samples:
1214315008, 1214315009

Matrix: Soil/Solid (dry weight)

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	7.11J	20.0	6.20	mg/kg
Surrogates				
5a Androstane (surr)	100	60-120		%

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: IVM
Analytical Date/Time: 7/21/2021 5:08:00PM

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 7/21/2021 1:44:55PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:49:04PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45205]
Blank Spike Lab ID: 1624621
Date Analyzed: 07/21/2021 17:18

Spike Duplicate ID: LCSD for HBN 1214315 [XXX45205]
Spike Duplicate Lab ID: 1624622
Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009

Results by **AK102**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	667	770	116	667	759	114	(75-125)	1.50	(< 20)
Surrogates									
5a Androstane (surr)	16.7		117	16.7		114	(60-120)	2.60	

Batch Information

Analytical Batch: **XFC16012**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **IVM**

Prep Batch: **XXX45205**
Prep Method: **SW3550C**
Prep Date/Time: **07/21/2021 13:44**
Spike Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL

Print Date: 08/06/2021 4:49:08PM

Method Blank

Blank ID: MB for HBN 1822754 [XXX/45205]
Blank Lab ID: 1624620

QC for Samples:
1214315008, 1214315009

Matrix: Soil/Solid (dry weight)

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	50.0U	100	43.0	mg/kg
Surrogates				
n-Triacontane-d62 (surr)	101	60-120		%

Batch Information

Analytical Batch: XFC16012
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: IVM
Analytical Date/Time: 7/21/2021 5:08:00PM

Prep Batch: XXX45205
Prep Method: SW3550C
Prep Date/Time: 7/21/2021 1:44:55PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

Print Date: 08/06/2021 4:49:12PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45205]
Blank Spike Lab ID: 1624621
Date Analyzed: 07/21/2021 17:18

Spike Duplicate ID: LCSD for HBN 1214315 [XXX45205]
Spike Duplicate Lab ID: 1624622
Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009

Results by **AK103**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	667	723	108	667	710	107	(60-120)	1.80	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	16.7		112	16.7		107	(60-120)	4.50	

Batch Information

Analytical Batch: **XFC16012**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **IVM**

Prep Batch: **XXX45205**
Prep Method: **SW3550C**
Prep Date/Time: **07/21/2021 13:44**
Spike Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 667 mg/kg Extract Vol: 5 mL

Print Date: 08/06/2021 4:49:14PM

Method Blank

Blank ID: MB for HBN 1822934 [XXX/45228]
Blank Lab ID: 1625489

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009

Results by **SW8270D**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trichlorobenzene	0.125U	0.250	0.0780	mg/kg
1,2-Dichlorobenzene	0.125U	0.250	0.0780	mg/kg
1,3-Dichlorobenzene	0.125U	0.250	0.0780	mg/kg
1,4-Dichlorobenzene	0.125U	0.250	0.0780	mg/kg
1-Chloronaphthalene	0.125U	0.250	0.0780	mg/kg
1-Methylnaphthalene	0.125U	0.250	0.0780	mg/kg
2,4,5-Trichlorophenol	0.125U	0.250	0.0780	mg/kg
2,4,6-Trichlorophenol	0.125U	0.250	0.0780	mg/kg
2,4-Dichlorophenol	0.125U	0.250	0.0780	mg/kg
2,4-Dimethylphenol	0.125U	0.250	0.0780	mg/kg
2,4-Dinitrophenol	1.50U	3.00	0.940	mg/kg
2,4-Dinitrotoluene	0.125U	0.250	0.0780	mg/kg
2,6-Dichlorophenol	0.125U	0.250	0.0780	mg/kg
2,6-Dinitrotoluene	0.125U	0.250	0.0780	mg/kg
2-Chloronaphthalene	0.125U	0.250	0.0780	mg/kg
2-Chlorophenol	0.125U	0.250	0.0780	mg/kg
2-Methyl-4,6-dinitrophenol	1.00U	2.00	0.620	mg/kg
2-Methylnaphthalene	0.125U	0.250	0.0780	mg/kg
2-Methylphenol (o-Cresol)	0.125U	0.250	0.0780	mg/kg
2-Nitroaniline	0.125U	0.250	0.0780	mg/kg
2-Nitrophenol	0.125U	0.250	0.0780	mg/kg
3&4-Methylphenol (p&m-Cresol)	0.500U	1.00	0.310	mg/kg
3,3-Dichlorobenzidine	0.250U	0.500	0.150	mg/kg
3-Nitroaniline	0.250U	0.500	0.150	mg/kg
4-Bromophenyl-phenylether	0.125U	0.250	0.0780	mg/kg
4-Chloro-3-methylphenol	0.125U	0.250	0.0780	mg/kg
4-Chloroaniline	0.500U	1.00	0.310	mg/kg
4-Chlorophenyl-phenylether	0.125U	0.250	0.0780	mg/kg
4-Nitroaniline	1.50U	3.00	0.940	mg/kg
4-Nitrophenol	1.00U	2.00	0.620	mg/kg
Acenaphthene	0.125U	0.250	0.0780	mg/kg
Acenaphthylene	0.125U	0.250	0.0780	mg/kg
Aniline	1.00U	2.00	0.620	mg/kg
Anthracene	0.125U	0.250	0.0780	mg/kg
Azobenzene	0.125U	0.250	0.0780	mg/kg
Benzo(a)Anthracene	0.125U	0.250	0.0780	mg/kg
Benzo[a]pyrene	0.125U	0.250	0.0780	mg/kg
Benzo[b]Fluoranthene	0.125U	0.250	0.0780	mg/kg

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Method Blank

Blank ID: MB for HBN 1822934 [XXX/45228]
Blank Lab ID: 1625489

Matrix: Soil/Solid (dry weight)

QC for Samples:
1214315008, 1214315009

Results by **SW8270D**

Parameter	Results	LOQ/CL	DL	Units
Benzo[g,h,i]perylene	0.125U	0.250	0.0780	mg/kg
Benzo[k]fluoranthene	0.125U	0.250	0.0780	mg/kg
Benzoic acid	0.750U	1.50	0.470	mg/kg
Benzyl alcohol	0.125U	0.250	0.0780	mg/kg
Bis(2chloro1methylethyl)Ether	0.125U	0.250	0.0780	mg/kg
Bis(2-Chloroethoxy)methane	0.125U	0.250	0.0780	mg/kg
Bis(2-Chloroethyl)ether	0.125U	0.250	0.0780	mg/kg
bis(2-Ethylhexyl)phthalate	0.125U	0.250	0.0780	mg/kg
Butylbenzylphthalate	0.125U	0.250	0.0780	mg/kg
Carbazole	0.125U	0.250	0.0780	mg/kg
Chrysene	0.125U	0.250	0.0780	mg/kg
Dibenzo[a,h]anthracene	0.125U	0.250	0.0780	mg/kg
Dibenzofuran	0.125U	0.250	0.0780	mg/kg
Diethylphthalate	0.125U	0.250	0.0780	mg/kg
Dimethylphthalate	0.125U	0.250	0.0780	mg/kg
Di-n-butylphthalate	0.125U	0.250	0.0780	mg/kg
di-n-Octylphthalate	0.250U	0.500	0.150	mg/kg
Fluoranthene	0.125U	0.250	0.0780	mg/kg
Fluorene	0.125U	0.250	0.0780	mg/kg
Hexachlorobenzene	0.125U	0.250	0.0780	mg/kg
Hexachlorobutadiene	0.125U	0.250	0.0780	mg/kg
Hexachlorocyclopentadiene	0.350U	0.700	0.200	mg/kg
Hexachloroethane	0.125U	0.250	0.0780	mg/kg
Indeno[1,2,3-c,d] pyrene	0.125U	0.250	0.0780	mg/kg
Isophorone	0.125U	0.250	0.0780	mg/kg
Naphthalene	0.125U	0.250	0.0780	mg/kg
Nitrobenzene	0.125U	0.250	0.0780	mg/kg
N-Nitrosodimethylamine	0.125U	0.250	0.0780	mg/kg
N-Nitroso-di-n-propylamine	0.125U	0.250	0.0780	mg/kg
N-Nitrosodiphenylamine	0.125U	0.250	0.0780	mg/kg
Pentachlorophenol	1.00U	2.00	0.620	mg/kg
Phenanthrene	0.125U	0.250	0.0780	mg/kg
Phenol	0.125U	0.250	0.0780	mg/kg
Pyrene	0.125U	0.250	0.0780	mg/kg
Surrogates				
2,4,6-Tribromophenol (surr)	85.9	35-125		%
2-Fluorobiphenyl (surr)	62.8	44-115		%
2-Fluorophenol (surr)	56.2	35-115		%

SGS North America Inc.
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t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1822934 [XXX/45228]
Blank Lab ID: 1625489

QC for Samples:
1214315008, 1214315009

Matrix: Soil/Solid (dry weight)

Results by **SW8270D**

Parameter	Results	LOQ/CL	DL	Units
Nitrobenzene-d5 (surr)	58.9	37-122		%
Phenol-d6 (surr)	60.4	33-122		%
Terphenyl-d14 (surr)	98.6	54-127		%

Batch Information

Analytical Batch: XMS12793
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: NRB
Analytical Date/Time: 8/1/2021 3:45:00AM

Prep Batch: XXX45228
Prep Method: SW3550C
Prep Date/Time: 7/25/2021 8:35:19AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 1 mL

Analytical Batch: XMS12797
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: NRB
Analytical Date/Time: 8/3/2021 4:32:00PM

Prep Batch: XXX45228
Prep Method: SW3550C
Prep Date/Time: 7/25/2021 8:35:19AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
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Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45228]
Blank Spike Lab ID: 1625490
Date Analyzed: 08/01/2021 04:02

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009

Results by **SW8270D**

	Blank Spike (mg/kg)				
Parameter	Spike	Result	Rec (%)		CL
1,2,4-Trichlorobenzene	4.44	3.43	77		(34-118)
1,2-Dichlorobenzene	4.44	3.15	71		(33-117)
1,3-Dichlorobenzene	4.44	3.08	69		(30-115)
1,4-Dichlorobenzene	4.44	3.03	68		(31-115)
1-Chloronaphthalene	1.78	1.29	73		(48-115)
1-Methylnaphthalene	4.44	3.38	76		(40-119)
2,4,5-Trichlorophenol	4.44	3.95	89		(41-124)
2,4,6-Trichlorophenol	4.44	3.94	89		(39-126)
2,4-Dichlorophenol	4.44	3.81	86		(40-122)
2,4-Dimethylphenol	4.44	3.55	80		(30-127)
2,4-Dinitrophenol	8	10.1	126	*	(62-113)
2,4-Dinitrotoluene	4.44	4.41	99		(48-126)
2,6-Dichlorophenol	1.78	1.50	84		(41-117)
2,6-Dinitrotoluene	4.44	4.27	96		(46-124)
2-Chloronaphthalene	4.44	3.75	84		(41-114)
2-Chlorophenol	4.44	3.02	68		(34-121)
2-Methyl-4,6-dinitrophenol	8	11.5	144	*	(29-132)
2-Methylnaphthalene	4.44	3.36	76		(38-122)
2-Methylphenol (o-Cresol)	4.44	3.24	73		(32-122)
2-Nitroaniline	4.44	4.01	90		(44-127)
2-Nitrophenol	4.44	3.24	73		(36-123)
3&4-Methylphenol (p&m-Cresol)	6.22	5.20	84		(34-119)
3,3-Dichlorobenzidine	4.44	3.66	82		(22-121)
3-Nitroaniline	4.44	3.98	90		(33-119)
4-Bromophenyl-phenylether	4.44	4.70	106		(46-124)
4-Chloro-3-methylphenol	4.44	3.94	89		(45-122)
4-Chloroaniline	4.44	3.25	73		(17-106)
4-Chlorophenyl-phenylether	4.44	3.84	87		(45-121)
4-Nitroaniline	4.44	4.29	97		(77-120)
4-Nitrophenol	6.22	6.59	106		(30-132)
Acenaphthene	4.44	3.64	82		(40-123)
Acenaphthylene	4.44	3.57	80		(32-132)
Aniline	4.44	2.19	49		(24-89)

Print Date: 08/06/2021 4:49:21PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45228]
Blank Spike Lab ID: 1625490
Date Analyzed: 08/01/2021 04:02

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009

Results by **SW8270D**

	Blank Spike (mg/kg)				
Parameter	Spike	Result	Rec (%)		CL
Anthracene	4.44	4.49	101		(47-123)
Azobenzene	4.44	3.96	89		(39-125)
Benzo(a)Anthracene	4.44	4.52	102		(49-126)
Benzo[a]pyrene	4.44	4.42	100		(45-129)
Benzo[b]Fluoranthene	4.44	4.46	100		(45-132)
Benzo[g,h,i]perylene	4.44	5.42	122		(43-134)
Benzo[k]fluoranthene	4.44	4.31	97		(47-132)
Benzoic acid	6.22	9.12	146	*	(53-124)
Benzyl alcohol	4.44	3.54	80		(29-122)
Bis(2chloro1methylethyl)Ether	4.44	2.79	63		(33-131)
Bis(2-Chloroethoxy)methane	4.44	3.39	76		(36-121)
Bis(2-Chloroethyl)ether	4.44	2.70	61		(31-120)
bis(2-Ethylhexyl)phthalate	4.44	4.39	99		(51-133)
Butylbenzylphthalate	4.44	4.32	97		(48-132)
Carbazole	4.44	4.69	106		(50-123)
Chrysene	4.44	4.40	99		(50-124)
Dibenzo[a,h]anthracene	4.44	5.17	116		(45-134)
Dibenzofuran	4.44	3.72	84		(44-120)
Diethylphthalate	4.44	4.20	95		(50-124)
Dimethylphthalate	4.44	4.56	103		(48-124)
Di-n-butylphthalate	4.44	4.75	107		(51-128)
di-n-Octylphthalate	4.44	4.35	98		(45-140)
Fluoranthene	4.44	4.36	98		(50-127)
Fluorene	4.44	4.03	91		(43-125)
Hexachlorobenzene	4.44	4.65	105		(45-122)
Hexachlorobutadiene	4.44	3.72	84		(32-123)
Hexachloroethane	4.44	2.91	66		(28-117)
Indeno[1,2,3-c,d] pyrene	4.44	5.09	114		(45-133)
Isophorone	4.44	3.75	85		(30-122)
Naphthalene	4.44	3.11	70		(35-123)
Nitrobenzene	4.44	3.06	69		(34-122)
N-Nitrosodimethylamine	4.44	2.80	63		(23-120)
N-Nitroso-di-n-propylamine	4.44	3.75	84		(36-120)

Print Date: 08/06/2021 4:49:21PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45228]
Blank Spike Lab ID: 1625490
Date Analyzed: 08/01/2021 04:02

Matrix: Soil/Solid (dry weight)

QC for Samples: 1214315008, 1214315009

Results by **SW8270D**

	Blank Spike (mg/kg)			
Parameter	Spike	Result	Rec (%)	CL
N-Nitrosodiphenylamine	4.44	3.55	80	(38-127)
Pentachlorophenol	6.22	7.70	124	(25-133)
Phenanthrene	4.44	4.48	101	(50-121)
Phenol	4.44	3.30	74	(34-121)
Pyrene	4.44	4.39	99	(47-127)
Hexachlorocyclopentadiene	4.44	2.72	61	(34-74)
Surrogates				
2,4,6-Tribromophenol (surr)	8.89		109	(35-125)
2-Fluorobiphenyl (surr)	4.44		76	(44-115)
2-Fluorophenol (surr)	8.89		68	(35-115)
Nitrobenzene-d5 (surr)	4.44		71	(37-122)
Phenol-d6 (surr)	8.89		76	(33-122)
Terphenyl-d14 (surr)	4.44		109	(54-127)

Batch Information

Analytical Batch: **XMS12793**
Analytical Method: **SW8270D**
Instrument: **HP 6890/5973 SSA**
Analyst: **NRB**

Prep Batch: **XXX45228**
Prep Method: **SW3550C**
Prep Date/Time: **07/25/2021 08:35**
Spike Init Wt./Vol.: 4.44 mg/kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **XMS12797**
Analytical Method: **SW8270D**
Instrument: **HP 6890/5973 SSA**
Analyst: **NRB**

Prep Batch: **XXX45228**
Prep Method: **SW3550C**
Prep Date/Time: **07/25/2021 08:35**
Spike Init Wt./Vol.: 4.44 mg/kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/06/2021 4:49:21PM

Matrix Spike Summary

Original Sample ID: 1627404
MS Sample ID: 1627405 MS
MSD Sample ID: 1627406 MSD

QC for Samples: 1214315008, 1214315009

Analysis Date: 08/02/2021 19:43
Analysis Date: 08/02/2021 20:00
Analysis Date: 08/02/2021 20:16
Matrix: Solid/Soil (Wet Weight)

Results by **SW8270D**

		Matrix Spike (mg/kg)				Spike Duplicate (mg/kg)						
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
1,2,4-Trichlorobenzene	0.620U	4.42	3.51	79		4.43	3.35	76		34-118	4.70	(< 20)
1,2-Dichlorobenzene	0.620U	4.42	2.96	67		4.43	2.66	60		33-117	10.80	(< 20)
1,3-Dichlorobenzene	0.620U	4.42	2.79	63		4.43	2.45	55		30-115	12.90	(< 20)
1,4-Dichlorobenzene	0.620U	4.42	2.86	65		4.43	2.37	54		31-115	18.80	(< 20)
1-Chloronaphthalene	0.620U	1.77	1.4	79		1.77	1.36	77		48-115	2.70	(< 20)
1-Methylnaphthalene	0.620U	4.42	3.54	80		4.43	3.30	74		40-119	7.20	(< 20)
2,4,5-Trichlorophenol	0.620U	4.42	3.82	86		4.43	3.59	81		41-124	6.20	(< 20)
2,4,6-Trichlorophenol	0.620U	4.42	3.78	86		4.43	3.58	81		39-126	5.60	(< 20)
2,4-Dichlorophenol	0.620U	4.42	3.91	88		4.43	3.60	81		40-122	8.10	(< 20)
2,4-Dimethylphenol	0.620U	4.42	3.55	80		4.43	3.24	73		30-127	9.00	(< 20)
2,4-Dinitrophenol	7.45U	7.96	9.04J	114	*	7.97	8.25J	104		62-113	9.10	(< 20)
2,4-Dinitrotoluene	0.620U	4.42	4.26	96		4.43	3.76	85		48-126	12.50	(< 20)
2,6-Dichlorophenol	0.620U	1.77	1.69	96		1.77	1.54	87		41-117	9.40	(< 20)
2,6-Dinitrotoluene	0.620U	4.42	3.99	90		4.43	3.99	90		46-124	0.06	(< 20)
2-Chloronaphthalene	0.620U	4.42	3.93	89		4.43	3.61	82		41-114	8.40	(< 20)
2-Chlorophenol	0.620U	4.42	3.14	71		4.43	2.58	58		34-121	19.40	(< 20)
2-Methyl-4,6-dinitrophenol	4.98U	7.96	12	151	*	7.97	10.7	134	*	29-132	12.00	(< 20)
2-Methylnaphthalene	0.620U	4.42	3.61	82		4.43	3.30	75		38-122	8.80	(< 20)
2-Methylphenol (o-Cresol)	0.620U	4.42	3.29	75		4.43	3.06	69		32-122	7.50	(< 20)
2-Nitroaniline	0.620U	4.42	3.69	83		4.43	3.79	86		44-127	2.60	(< 20)
2-Nitrophenol	0.620U	4.42	3.45	78		4.43	3.02	68		36-123	13.30	(< 20)
3&4-Methylphenol (p&m-Cresol)	2.49U	6.19	5.26	85		6.20	4.59J	74		34-119	13.70	(< 20)
3,3-Dichlorobenzidine	1.25U	4.42	1.76J	40		4.43	1.40J	32		22-121	22.60	* (< 20)
3-Nitroaniline	1.25U	4.42	2.63	60		4.43	2.58	58		33-119	2.00	(< 20)
4-Bromophenyl-phenylether	0.620U	4.42	4.38	99		4.43	4.33	98		46-124	1.10	(< 20)
4-Chloro-3-methylphenol	0.620U	4.42	3.7	84		4.43	3.35	76		45-122	10.10	(< 20)
4-Chloroaniline	2.49U	4.42	2.49U	0	*	4.43	2.49U	0	*	17-106	0.00	(< 20)
4-Chlorophenyl-phenylether	0.620U	4.42	3.63	82		4.43	3.42	77		45-121	6.10	(< 20)
4-Nitroaniline	7.45U	4.42	7.45U	0	*	4.43	7.45U	0	*	77-120	0.00	(< 20)
4-Nitrophenol	4.98U	6.19	4.85J	78		6.20	4.18J	67		30-132	14.90	(< 20)
Acenaphthene	0.620U	4.42	3.57	81		4.43	3.32	75		40-123	7.30	(< 20)
Acenaphthylene	0.620U	4.42	3.51	79		4.43	3.42	77		32-132	2.60	(< 20)
Aniline	4.98U	4.42	4.98U	0	*	4.43	4.98U	0	*	24-89	0.00	(< 20)
Anthracene	0.620U	4.42	4.3	97		4.43	3.85	87		47-123	11.00	(< 20)
Azobenzene	0.620U	4.42	4.17	94		4.43	3.75	85		39-125	10.70	(< 20)
Benzo(a)Anthracene	0.620U	4.42	3.96	90		4.43	3.71	84		49-126	6.60	(< 20)
Benzo[a]pyrene	0.620U	4.42	3.9	88		4.43	3.63	82		45-129	7.20	(< 20)

Print Date: 08/06/2021 4:49:23PM

Matrix Spike Summary

Original Sample ID: 1627404
MS Sample ID: 1627405 MS
MSD Sample ID: 1627406 MSD

QC for Samples: 1214315008, 1214315009

Analysis Date: 08/02/2021 19:43
Analysis Date: 08/02/2021 20:00
Analysis Date: 08/02/2021 20:16
Matrix: Solid/Soil (Wet Weight)

Results by **SW8270D**

		Matrix Spike (mg/kg)				Spike Duplicate (mg/kg)						
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)		RPD CL
Benzo[b]Fluoranthene	0.620U	4.42	3.97	90		4.43	3.70	84		45-132	7.00		(< 20)
Benzo[g,h,i]perylene	0.620U	4.42	5	113		4.43	4.58	103		43-134	8.80		(< 20)
Benzo[k]fluoranthene	0.620U	4.42	3.94	89		4.43	3.81	86		47-132	3.30		(< 20)
Benzoic acid	3.73U	6.19	8.57	138	*	6.20	8.12	131	*	53-124	5.30		(< 20)
Benzyl alcohol	0.620U	4.42	3.55	80		4.43	3.20	72		29-122	10.30		(< 20)
Bis(2chloro1methylethyl)Ether	0.620U	4.42	2.92	66		4.43	2.73	62		33-131	6.90		(< 20)
Bis(2-Chloroethoxy)methane	0.620U	4.42	3.68	83		4.43	3.41	77		36-121	7.70		(< 20)
Bis(2-Chloroethyl)ether	0.620U	4.42	2.57	58		4.43	2.26	51		31-120	12.90		(< 20)
bis(2-Ethylhexyl)phthalate	0.620U	4.42	4.68	106		4.43	4.34	98		51-133	7.50		(< 20)
Butylbenzylphthalate	0.620U	4.42	4.53	102		4.43	4.20	95		48-132	7.60		(< 20)
Carbazole	0.620U	4.42	4.26	96		4.43	4.01	91		50-123	5.90		(< 20)
Chrysene	0.620U	4.42	4.01	91		4.43	3.76	85		50-124	6.60		(< 20)
Dibenzo[a,h]anthracene	0.620U	4.42	5.59	126		4.43	4.99	113		45-134	11.20		(< 20)
Dibenzofuran	0.620U	4.42	3.79	86		4.43	3.44	78		44-120	9.70		(< 20)
Diethylphthalate	0.620U	4.42	3.91	88		4.43	3.80	86		50-124	2.70		(< 20)
Dimethylphthalate	0.620U	4.42	4.24	96		4.43	4.19	95		48-124	1.10		(< 20)
Di-n-butylphthalate	0.620U	4.42	4.43	100		4.43	4.28	97		51-128	3.40		(< 20)
di-n-Octylphthalate	1.25U	4.42	4.73	107		4.43	4.64	105		45-140	1.90		(< 20)
Fluoranthene	0.620U	4.42	3.73	84		4.43	3.51	79		50-127	6.10		(< 20)
Fluorene	0.620U	4.42	3.77	85		4.43	3.52	80		43-125	6.70		(< 20)
Hexachlorobenzene	0.620U	4.42	4.61	104		4.43	4.39	99		45-122	4.90		(< 20)
Hexachlorobutadiene	0.620U	4.42	4.07	92		4.43	3.82	86		32-123	6.20		(< 20)
Hexachloroethane	0.620U	4.42	2.84	64		4.43	2.24	51		28-117	23.80	*	(< 20)
Indeno[1,2,3-c,d] pyrene	0.620U	4.42	5.27	119		4.43	4.93	111		45-133	6.70		(< 20)
Isophorone	0.620U	4.42	3.79	86		4.43	3.72	84		30-122	1.80		(< 20)
Naphthalene	0.620U	4.42	3.52	80		4.43	3.22	73		35-123	8.90		(< 20)
Nitrobenzene	0.620U	4.42	3.4	77		4.43	3.06	69		34-122	10.40		(< 20)
N-Nitrosodimethylamine	0.620U	4.42	2.41	55		4.43	1.90	43		23-120	23.60	*	(< 20)
N-Nitroso-di-n-propylamine	0.620U	4.42	3.79	86		4.43	3.59	81		36-120	5.50		(< 20)
N-Nitrosodiphenylamine	0.620U	4.42	3.51	79		4.43	3.44	78		38-127	1.90		(< 20)
Pentachlorophenol	4.98U	6.19	7.07J	114		6.20	6.30J	102		25-133	11.40		(< 20)
Phenanthrene	0.620U	4.42	4.6	104		4.43	4.06	92		50-121	12.60		(< 20)
Phenol	0.620U	4.42	3.28	74		4.43	2.80	63		34-121	15.90		(< 20)
Pyrene	0.620U	4.42	4.65	105		4.43	4.33	98		47-127	7.20		(< 20)
Hexachlorocyclopentadiene	8.70U	4.42	8.70U	0	*	4.43	8.70U	0	*	34-74	0.00		(< 20)
Surrogates													
2,4,6-Tribromophenol (surr)		8.85	9.31	105		8.86	8.86	100		35-125	4.90		

Print Date: 08/06/2021 4:49:23PM

Matrix Spike Summary

Original Sample ID: 1627404
MS Sample ID: 1627405 MS
MSD Sample ID: 1627406 MSD

QC for Samples: 1214315008, 1214315009

Analysis Date:
Analysis Date: 08/02/2021 20:00
Analysis Date: 08/02/2021 20:16
Matrix: Solid/Soil (Wet Weight)

Results by **SW8270D**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
2-Fluorobiphenyl (surr)		4.42	3.57	81	4.43	3.34	76	44-115	6.60	
2-Fluorophenol (surr)		8.85	5.12	58	8.86	3.92	44	35-115	26.60	
Nitrobenzene-d5 (surr)		4.42	3.5	79	4.43	3.20	72	37-122	9.00	
Phenol-d6 (surr)		8.85	6.45	73	8.86	5.86	66	33-122	9.50	
Terphenyl-d14 (surr)		4.42	4.82	109	4.43	4.16	94	54-127	14.80	

Batch Information

Analytical Batch: XMS12795
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: NRB
Analytical Date/Time: 8/2/2021 8:00:00PM

Prep Batch: XXX45228
Prep Method: Sonication Extraction Soil SW8270
Prep Date/Time: 7/25/2021 8:35:00AM
Prep Initial Wt./Vol.: 22.60g
Prep Extract Vol: 1.00mL

Analytical Batch: XMS12797
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: NRB
Analytical Date/Time: 8/3/2021 5:23:00PM

Prep Batch: XXX45228
Prep Method: Sonication Extraction Soil SW8270
Prep Date/Time: 7/25/2021 8:35:00AM
Prep Initial Wt./Vol.: 22.60g
Prep Extract Vol: 1.00mL

Print Date: 08/06/2021 4:49:23PM

Method Blank

Blank ID: MB for HBN 1823014 [XXX/45241]
Blank Lab ID: 1625777

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1214315001, 1214315002, 1214315003, 1214315004, 1214315005

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.214J	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	108	60-120		%

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: A.A
Analytical Date/Time: 7/27/2021 2:00:00PM

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 7/26/2021 6:30:50PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:49:26PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45241]
Blank Spike Lab ID: 1625778
Date Analyzed: 07/27/2021 15:59

Spike Duplicate ID: LCSD for HBN 1214315 [XXX45241]
Spike Duplicate Lab ID: 1625779
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1214315001, 1214315002, 1214315003, 1214315004, 1214315005

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	21.5	108	20	21.6	108	(75-125)	0.18	(< 20)
Surrogates									
5a Androstane (surr)	0.4		116	0.4		115	(60-120)	0.10	

Batch Information

Analytical Batch: **XFC16021**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **A.A**

Prep Batch: **XXX45241**
Prep Method: **SW3520C**
Prep Date/Time: **07/26/2021 18:30**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 08/06/2021 4:49:29PM

Method Blank

Blank ID: MB for HBN 1823014 [XXX/45241]
Blank Lab ID: 1625777

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1214315001, 1214315002, 1214315003, 1214315004, 1214315005

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	110	60-120		%

Batch Information

Analytical Batch: XFC16021
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: A.A
Analytical Date/Time: 7/27/2021 2:00:00PM

Prep Batch: XXX45241
Prep Method: SW3520C
Prep Date/Time: 7/26/2021 6:30:50PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 08/06/2021 4:49:33PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1214315 [XXX45241]
Blank Spike Lab ID: 1625778
Date Analyzed: 07/27/2021 15:59

Spike Duplicate ID: LCSD for HBN 1214315 [XXX45241]
Spike Duplicate Lab ID: 1625779
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1214315001, 1214315002, 1214315003, 1214315004, 1214315005

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	21.1	106	20	21.0	105	(60-120)	0.50	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4		107	0.4		109	(60-120)	1.80	

Batch Information

Analytical Batch: **XFC16021**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **A.A**

Prep Batch: **XXX45241**
Prep Method: **SW3520C**
Prep Date/Time: **07/26/2021 18:30**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 08/06/2021 4:49:37PM

SGS

1214315

SGS North America Inc.
HAIN OF CUSTODY RECORD

PH#367566 www.us.sgs.com

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 1 of 1

Section 1

CLIENT:	Trihydro		
CONTACT:	Maya Lehl	PHONE #:	907-598-7022
PROJECT NAME:	North Star Paving	PROJECT/ PWSID/ PERMIT#:	74A-001-001
REPORTS TO:	Maya Lehl	E-MAIL:	mlehl@trihydro.com
		Profile #:	
INVOICE TO:	Trihydro	QUOTE #:	
		P.O. #:	2021538

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incre-mental)	GRO AK101 (HCl)	DRO/RRO AK102/AK103 (HCl)	VOCs 8260 (MeOH)	DRO/RRO/SVOC AK102/AK103/8270	% Moisture						REMARKS/LOC ID
1A-E	MW-1	7/15/2021	13:21	W	5	Grab	3	2									
2A-E	MW-3	7/15/2021	11:30	W	5	Grab	3	2									
3A-E	MW-4	7/15/2021	12:09	W	5	Grab	3	2									
4A-E	MW-5	7/15/2021	12:45	W	5	Grab	3	2									
5A-E	DUP-1	7/15/2021	8:00	W	5	Grab	3	2									
6A-C	Trip Blank	7/15/2021	8:00	W	3	Grab	3										6AC 7AC
8A-C	SP-1	7/15/2021	14:25	S	3	Grab			1	1	1						8AC
9A-C	DUP-SP-1	7/15/2021	9:00	S	3	Grab			1	1	1						8AC 9AC
10A	Trip Blank	7/15/2021	8:00	S	1	Grab			1								9A 10A
10A-C																	

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

B-7-15

MA 7/28/21

Section 5

Relinquished By: (1)	Date 7-15-21	Time 15:15	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date 7/16/21	Time 8:51	Received For Laboratory By:

Section 4

DOD Project? Yes No

Data Deliverable Requirements:

Cooler ID:

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: 3.3 D04 or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery [X]

VA

http://www.sgs.com/terms-and-conditions

F083-Blank_COC_20181228

e-Sample Receipt Form

SGS Workorder #: **1214315**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		N/A Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 5.6 °C Therm. ID: D64
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? **Note: If times differ <1hr, record details & login per COC. ***Note: If sample information on containers differs from COC, SGS will default to COC information	Yes	
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
		N/A ***Exemption permitted for metals (e.g,200.8/6020B).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1214315001-A	HCL to pH < 2	OK			
1214315001-B	HCL to pH < 2	OK			
1214315001-C	HCL to pH < 2	OK			
1214315001-D	HCL to pH < 2	OK			
1214315001-E	HCL to pH < 2	OK			
1214315002-A	HCL to pH < 2	OK			
1214315002-B	HCL to pH < 2	OK			
1214315002-C	HCL to pH < 2	OK			
1214315002-D	HCL to pH < 2	OK			
1214315002-E	HCL to pH < 2	OK			
1214315003-A	HCL to pH < 2	OK			
1214315003-B	HCL to pH < 2	OK			
1214315003-C	HCL to pH < 2	OK			
1214315003-D	HCL to pH < 2	OK			
1214315003-E	HCL to pH < 2	OK			
1214315004-A	HCL to pH < 2	OK			
1214315004-B	HCL to pH < 2	OK			
1214315004-C	HCL to pH < 2	OK			
1214315004-D	HCL to pH < 2	OK			
1214315004-E	HCL to pH < 2	OK			
1214315005-A	HCL to pH < 2	OK			
1214315005-B	HCL to pH < 2	OK			
1214315005-C	HCL to pH < 2	OK			
1214315005-D	HCL to pH < 2	OK			
1214315005-E	HCL to pH < 2	OK			
1214315006-A	HCL to pH < 2	OK			
1214315006-B	HCL to pH < 2	OK			
1214315006-C	HCL to pH < 2	OK			
1214315007-A	HCL to pH < 2	OK			
1214315007-B	HCL to pH < 2	OK			
1214315007-C	HCL to pH < 2	OK			
1214315008-A	Methanol field pres. 4 C	OK			
1214315008-B	No Preservative Required	OK			
1214315008-C	No Preservative Required	OK			
1214315009-A	Methanol field pres. 4 C	OK			
1214315009-B	No Preservative Required	OK			
1214315009-C	No Preservative Required	OK			
1214315010-A	Methanol field pres. 4 C	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

Laboratory Report of Analysis

To: Trihydro Corporation
312 Tyee Street
Soldotna, AK 99669
307-461-6104

Report Number: **1215797**

Client Project: **74A-001-001 North Star Paving**

Dear Maya Lehl,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Chuck at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

SGS North America
Environmental Services – Alaska Division
General Manager

Charles Homestead
2021.09.29 08:43:55 -08'00'

Chuck Homestead
Project Manager
Charles.Homestead@sgs.com

Date

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Trihydro Corporation**
SGS Project: **1215797**
Project Name/Site: **74A-001-001 North Star Paving**
Project Contact: **Maya Lehl**

Refer to sample receipt form for information on sample condition.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 09/28/2021 5:21:15PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
SP-1	1215797001	09/07/2021	09/08/2021	Soil/Solid (dry weight)
Canceled	1215797002	09/07/2021	09/08/2021	Soil/Solid (dry weight)

Method	Method Description
AK101	Gasoline Range Organics (S)
SW6020B TCLP	Metals by ICP-MS
SM21 2540G	Percent Solids SM2540G

Print Date: 09/28/2021 5:21:18PM

Detectable Results Summary

Client Sample ID: **SP-1**
Lab Sample ID: 1215797001

TCLP Constituents Metals

Parameter	Result	Units
Barium	0.333	mg/L

Print Date: 09/28/2021 5:21:20PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **74A-001-001 North Star Paving**
Lab Sample ID: 1215797001
Lab Project ID: 1215797

Collection Date: 09/07/21 13:30
Received Date: 09/08/21 09:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

Results by **TCLP Constituents Metals**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	0.500	U	0.500	0.155	mg/L	25	(<5)	09/24/21 11:24
Barium	0.333		0.150	0.0470	mg/L	25	(<100)	09/24/21 11:24
Cadmium	0.100	U	0.100	0.0300	mg/L	25	(<1)	09/24/21 11:24
Chromium	0.500	U	0.500	0.155	mg/L	25	(<5)	09/24/21 11:24
Lead	0.0500	U	0.0500	0.0155	mg/L	25	(<5)	09/24/21 11:24
Mercury	0.0250	U	0.0250	0.00900	mg/L	25	(<0.2)	09/24/21 11:24
Selenium	1.00	U	1.00	0.310	mg/L	25	(<1)	09/24/21 11:24
Silver	0.100	U	0.100	0.0310	mg/L	25	(<5)	09/24/21 11:24

Batch Information

Analytical Batch: MMS11304
Analytical Method: SW6020B TCLP
Analyst: DMM
Analytical Date/Time: 09/24/21 11:24
Container ID: 1215797001-A

Prep Batch: MXT6152
Prep Method: SW3010A
Prep Date/Time: 09/16/21 11:00
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

Print Date: 09/28/2021 5:21:21PM

Results of **SP-1**

Client Sample ID: **SP-1**
Client Project ID: **74A-001-001 North Star Paving**
Lab Sample ID: 1215797001
Lab Project ID: 1215797

Collection Date: 09/07/21 13:30
Received Date: 09/08/21 09:34
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	4.72	U	4.72	1.42	mg/kg	1		09/16/21 03:53
Surrogates								
4-Bromofluorobenzene (surr)	75.1		50-150		%	1		09/16/21 03:53

Batch Information

Analytical Batch: VFC15822
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/16/21 03:53
Container ID: 1215797001-B

Prep Batch: VXX37850
Prep Method: SW5035A
Prep Date/Time: 09/07/21 13:30
Prep Initial Wt./Vol.: 33.834 g
Prep Extract Vol: 28.5771 mL

Print Date: 09/28/2021 5:21:21PM

Method Blank

Blank ID: LB1 for HBN 1825581 [TCLP/1139
Blank Lab ID: 1636561

QC for Samples:
1215797001

Matrix: Solid/Soil (Wet Weight)

Results by **SW6020B TCLP**

Parameter	Results	LOQ/CL	DL	Units
Arsenic	0.250U	0.500	0.155	mg/L
Barium	0.0750U	0.150	0.0470	mg/L
Cadmium	0.0500U	0.100	0.0300	mg/L
Chromium	0.250U	0.500	0.155	mg/L
Lead	0.0250U	0.0500	0.0155	mg/L
Mercury	0.0125U	0.0250	0.00900	mg/L
Selenium	0.500U	1.00	0.310	mg/L
Silver	0.0500U	0.100	0.0310	mg/L

Batch Information

Analytical Batch: MMS11304
Analytical Method: SW6020B TCLP
Instrument: Perkin Elmer NexIon P5
Analyst: DMM
Analytical Date/Time: 9/24/2021 10:33:53AM

Prep Batch: MXT6152
Prep Method: SW3010A
Prep Date/Time: 9/16/2021 11:00:58AM
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

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200 West Potter Drive Anchorage, AK 95518
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Method Blank

Blank ID: MB for HBN 1825629 [MXT/6152]
Blank Lab ID: 1636740

QC for Samples:
1215797001

Matrix: Water (Surface, Eff., Ground)

Results by **SW6020B TCLP**

Parameter	Results	LOQ/CL	DL	Units
Arsenic	0.250U	0.500	0.155	mg/L
Barium	0.0750U	0.150	0.0470	mg/L
Cadmium	0.0500U	0.100	0.0300	mg/L
Chromium	0.250U	0.500	0.155	mg/L
Lead	0.0250U	0.0500	0.0155	mg/L
Mercury	0.0125U	0.0250	0.00900	mg/L
Selenium	0.500U	1.00	0.310	mg/L
Silver	0.0500U	0.100	0.0310	mg/L

Batch Information

Analytical Batch: MMS11304
Analytical Method: SW6020B TCLP
Instrument: Perkin Elmer NexIon P5
Analyst: DMM
Analytical Date/Time: 9/24/2021 10:25:25AM

Prep Batch: MXT6152
Prep Method: SW3010A
Prep Date/Time: 9/16/2021 11:00:58AM
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1215797 [MXT6152]
Blank Spike Lab ID: 1636741
Date Analyzed: 09/24/2021 10:29

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1215797001

Results by **SW6020B TCLP**

	Blank Spike (mg/L)			
Parameter	Spike	Result	Rec (%)	CL
Arsenic	10	9.55	96	(84-116)
Barium	10	9.23	92	(86-114)
Cadmium	1	1.06	106	(87-115)
Chromium	4	3.61	90	(85-116)
Lead	10	10.4	104	(88-115)
Mercury	0.1	0.104	104	(70-124)
Selenium	10	10.2	102	(80-120)
Silver	1	1.02	102	(85-116)

Batch Information

Analytical Batch: **MMS11304**
Analytical Method: **SW6020B TCLP**
Instrument: **Perkin Elmer Nexlon P5**
Analyst: **DMM**

Prep Batch: **MXT6152**
Prep Method: **SW3010A**
Prep Date/Time: **09/16/2021 11:00**
Spike Init Wt./Vol.: 10 mg/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/28/2021 5:21:25PM

Matrix Spike Summary

Original Sample ID: 1636739
MS Sample ID: 1636743 MS
MSD Sample ID: 1636744 MSD

QC for Samples: 1215797001

Analysis Date: 09/24/2021 10:38
Analysis Date: 09/24/2021 10:42
Analysis Date: 09/24/2021 10:46
Matrix: Solid/Soil (Wet Weight)

Results by **SW6020B TCLP**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	0.250U	10.0	9.53	95	10.0	9.37	94	84-116	1.67	(< 20)
Barium	2.58	10.0	11.7	91	10.0	11.9	93	86-114	2.04	(< 20)
Cadmium	0.135	1.00	1.17	103	1.00	1.19	105	87-115	1.70	(< 20)
Chromium	2.67	4.00	6.53	97	4.00	6.38	93	85-116	2.24	(< 20)
Lead	0.0250U	10.0	10.4	104	10.0	10.1	101	88-115	2.18	(< 20)
Mercury	0.0125U	0.100	.0988	99	0.100	0.0972	97	70-124	1.69	(< 20)
Selenium	0.500U	10.0	10.5	105	10.0	10.8	108	80-120	2.75	(< 20)
Silver	0.0500U	1.00	.984	98	1.00	0.958	96	85-116	2.64	(< 20)

Batch Information

Analytical Batch: MMS11304
Analytical Method: SW6020B TCLP
Instrument: Perkin Elmer NexIon P5
Analyst: DMM
Analytical Date/Time: 9/24/2021 10:42:21AM

Prep Batch: MXT6152
Prep Method: Waters Digest for Metals by ICP-MS(TCLP)
Prep Date/Time: 9/16/2021 11:00:58AM
Prep Initial Wt./Vol.: 2.50mL
Prep Extract Vol: 25.00mL

Print Date: 09/28/2021 5:21:27PM

Method Blank

Blank ID: MB for HBN 1825327 [SPT/11372]
Blank Lab ID: 1635520

Matrix: Soil/Solid (dry weight)

QC for Samples:
1215797001

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	97.6			%

Batch Information

Analytical Batch: SPT11372
Analytical Method: SM21 2540G
Instrument:
Analyst: CAK
Analytical Date/Time: 9/9/2021 8:44:00PM

Print Date: 09/28/2021 5:21:29PM

Duplicate Sample Summary

Original Sample ID: 1215797001
Duplicate Sample ID: 1635521

Analysis Date: 09/09/2021 20:44
Matrix: Soil/Solid (dry weight)

QC for Samples:

1215797001

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	89.4	93.1	%	4.00	(< 15)

Batch Information

Analytical Batch: SPT11372
Analytical Method: SM21 2540G
Instrument:
Analyst: CAK

Print Date: 09/28/2021 5:21:30PM

Method Blank

Blank ID: MB for HBN 1825600 [VXX/37850]
Blank Lab ID: 1636625

QC for Samples:
1215797001

Matrix: Soil/Solid (dry weight)

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	1.25U	2.50	0.750	mg/kg
Surrogates				
4-Bromofluorobenzene (surr)	75.9	50-150		%

Batch Information

Analytical Batch: VFC15822
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: IJV
Analytical Date/Time: 9/15/2021 1:08:00PM

Prep Batch: VXX37850
Prep Method: SW5035A
Prep Date/Time: 9/15/2021 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1215797 [VXX37850]
Blank Spike Lab ID: 1636628
Date Analyzed: 09/15/2021 12:32

Spike Duplicate ID: LCSD for HBN 1215797 [VXX37850]
Spike Duplicate Lab ID: 1636629
Matrix: Soil/Solid (dry weight)

QC for Samples: 1215797001

Results by **AK101**

	Blank Spike (mg/kg)			Spike Duplicate (mg/kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	12.5	13.6	108	12.5	12.8	103	(60-120)	5.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	1.25		85	1.25		80	(50-150)	6.00	

Batch Information

Analytical Batch: **VFC15822**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **IJV**

Prep Batch: **VXX37850**
Prep Method: **SW5035A**
Prep Date/Time: **09/15/2021 06:00**
Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1215797

P# 3075606

www.us.sgs.com

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 1 of 1

Section 1

CLIENT:	Trihydro
CONTACT:	Maya Lehl
PHONE #:	907-598-7022
PROJECT NAME:	North Star Paving
PROJECT/ PWSID/ PERMIT#:	74A-001-001
REPORTS TO:	Maya Lehl
E-MAIL:	mlehl@trihydro.com
Profile #:	
INVOICE TO:	Trihdyro
QUOTE #:	
P.O. #:	2021538

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incre-mental)	AK101 GRO (MeOH+B)	SW1311 RCRA 8 Metals (FB)									REMARKS/LOC ID
1A-B	SP-1	9/7/2021	13:30	Soil	1	Grab	1	1									
2A	Trip Blank	9/7/2021	12:00	Soil	1		1										
MA 9.8.21																	

Analysis*

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 5

Relinquished By:	Date	Time	Received By:
(1)	9/8/21	0934	
(2)			
(3)			
(4)	9/8/21	0934	Received For Laboratory By: MA

Section 4

DOD Project? Yes No

Data Deliverable Requirements:

Cooler ID:

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: 3.0 D63 or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]

http://www.sgs.com/terms-and-conditions

F083-Blank_COC_20181228

e-Sample Receipt Form

SGS Workorder #: **1215797**

1 2 1 5 7 9 7

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements	Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A	**Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required	
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 3.0 °C Therm. ID: D63
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? **Note: If times differ <1hr, record details & login per COC. ***Note: If sample information on containers differs from COC, SGS will default to COC information	No	No trip blank received in cooler.Proceeded without trip blank.
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
	N/A	***Exemption permitted for metals (e.g,200.8/6020B).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	No	No trip blank received in cooler.Proceeded without trip blank.
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	Yes	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1215797001-A	No Preservative Required	OK			
1215797001-B	Methanol field pres. 4 C	OK			
1215797002-A	Methanol field pres. 4 C	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
QN - Insufficient sample quantity provided.

ATTACHMENT 2

DATA VALIDATION & ADEC CHECKLIST

Laboratory Data Review Checklist

Completed By:

Daran O'Hollearn

Title:

Lead Project Scientist

Date:

12/01/2021

Consultant Firm:

Trihydro Corporation

Laboratory Name:

SGS North America

Laboratory Report Number:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

ADEC File Number:

Hazard Identification Number:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

   SGS Anchorage (17-021 / AK00971)

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   Yes☐ No☐ N/A☒ Comments:

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes☒ No☐ N/A☐ Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes☐ No☐ N/A☒ Comments:

No discrepancies

e. Data quality or usability affected?

Comments:

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes☒ No☐ N/A☐ Comments:

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None indicated.

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☒ No☐ N/A☐ Comments:

Soil samples reported on a dry weight basis. Aqueous samples included in data set.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☐ No☐ N/A☐ Comments:

Unsure

e. Data quality or usability affected?

No

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☐ No☒ N/A☐ Comments:

See Data Validation report for details.

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

See Data Validation report for details.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

v. Data quality or usability affected?

Comments:

No

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

No metals or inorganic analyses performed.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

See Data Validation report for details.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

See Data Validation report for details.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☒ N/A☐ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

No. Evidence of potential high bias but analytes were not detected in the associated samples.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

No metals or inorganic analyses performed.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☒ Comments:

Matrix spike not prepared for all batches or prepared from non-project samples.

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Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☒ Comments:

Matrix spike not prepared for all batches or prepared from non-project samples.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

Matrix spike not prepared for all batches or prepared from non-project samples.

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

No

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes☒ No☐ N/A☐ Comments:

See Data Validation report for details.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

iv. Data quality or usability affected?

Comments:

No

e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☒ No☐ N/A☐ Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☒ No☐ N/A☐ Comments:

One cooler submitted

iii. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☒ No☐ N/A☐ Comments:

Please see Data Validation report for details.

1214315

Laboratory Report Date:

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CS Site Name:

North Star Paving – Groundwater Sampling

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

See Data Validation report for details.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

See Data Validation report for details.

g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes☒ No☐ N/A☐ Comments:

i. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

iii. Data quality or usability affected?

Comments:

1214315

Laboratory Report Date:

08/09/2021

CS Site Name:

North Star Paving – Groundwater Sampling

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

   a. Defined and appropriate?

      Yes☒ No☐ N/A☐ Comments:

Tier II Data Validation Report Summary

Client: North Star Paving	Laboratory: SGS North America
Project Name: Groundwater Sampling	Sample Matrix: Water and Soil
Project Number: 74A-001-001	Sample Start Date: 07/15/2021
Date Validated: 12/01/2021	Sample End Date: 07/15/2021
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) Method 8260D ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270D ▪ Gasoline Range Organics (GRO) by Alaska Department of Environmental Conservation (ADEC) Method AK101 ▪ Diesel Range Organics (DRO) by ADEC Method AK102 ▪ Residual Range Organics (RRO) by ADEC Method AK 103 ▪ Percent Solids by Standard Methods for the Examination of Water and Wastewater (SM) Method 2540G	
Laboratory Project ID: 1214315	
Data Validator: Daran O'Hollearn, Lead Project Scientist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by SGS North America (SGS) located in Anchorage, Alaska, evaluating samples from the North Star Paving site located in Alaska.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Laboratory duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Equipment blanks

Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
MW-1	1214315001
MW-3	1214315002
MW-4	1214315003
MW-5	1214315004
DUP-1	1214315005
Trip Blank	1214315006
EB-7-15	1214315007
SP-1	1214315008
DUP-SP-1	1214315009
Trip Blank	1214315010

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- ○ Initial and Continuing Calibrations (Items 9 and 10)
- ✓ Laboratory Blanks (Items 11 and 12)
- ✓ MS/MSD (Items 13 and 14)
- ✓ LCS/LCSD (Items 15 and 16)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ✓ Equipment and Trip Blanks (Items 18 and 19)
- ✓ Field Duplicates (Items 20 and 21)
- ✓ Laboratory Duplicates (Item 22)
- ✓ Data Relationships (Item 23)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Organic Superfund Methods Data Review, document number EPA-540-R-20-005, November 2020 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Review of field duplicates was conducted according to the USEPA Region 1 - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020
- Trihydro Data Validation Variance Documentation, February 2021.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

If applicable, text was identified in **bold font** in the Validation Criteria Checklist to indicate that further action and/or qualification of the data were required. Data may have been qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). These laboratory-applied J flags were preserved, if present, and included in the Data Qualification Summary table at the end of this report. If applicable, data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

If data would be qualified with more than one flag, one qualifier was assigned based on the severity; however, all reasons for qualification were retained. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data qualifiers were not applied as a result of this validation.

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 301 data points. The data completeness calculation does not include any submitted blank sample results. Data points were not rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory noted the following non-conformances regarding the analytical data. Method 8260D: MS and MSD recoveries for n-butylbenzene and hexachlorobutadiene do not meet QC criteria. See LCS for accuracy requirements. Method 8270D: For samples SP-1 and DUP-SP-1, the LOQs are elevated due to sample dilution. The sample was analyzed at a dilution due to a high concentration of non-target compounds. LCS recoveries for several analytes do not meet QC criteria. These analytes were not reported above the LOQ in the associated samples. MS and MSD recoveries for several analytes do not meet QC criteria. MS/MSD RPDs for several analytes do not meet QC criteria. These analytes were not reported above the LOQ in the parent sample.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory applied the following data qualification flags to data in this report. J – The quantitation is an estimation. U – Indicates the analyte was analyzed for but not detected. * – The analyte has exceeded allowable regulatory or control limits.	
3. Were sample CoC forms and custody procedures complete?	Yes
Comments: The CoC records from field to laboratory were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The laboratory noted that the shipping container was sealed, and custody seals were present and intact on the shipping container.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the data set were reviewed and appeared to be acceptable. The following dilutions were applied to project samples for the reported analyses. Method 8270D: Samples DUP-SP-1 and SP-1 were diluted by a factor of 5 times for the analysis of SVOC.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC?	Yes
Comments: The reported analytical methods were in compliance with the CoC, and the laboratory reported the requested constituents in accordance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received at SGS-Anchorage on ice, in good condition, and with the cooler temperature within the recommended temperature range of 4°C ± 2°C at 3.3°C as noted on the CoC.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: The samples were extracted and analyzed within method-specific holding times.	

VALIDATION CRITERIA CHECKLIST

8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil. — Yes

Comments: The results were reported in concentration units of milligrams per liter (mg/L), micrograms per kilogram (ug/kg), milligrams per kilogram (mg/kg), and percentage (%), which were acceptable for the sample matrices and the analyses requested. The analytical results for the soil samples were reported on a dry weight basis for this sample set.

9. Did the laboratory provide any specific initial and/or continuing calibration results? — No

Comments: Initial and continuing calibration data were not included as part of this data set.

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? — N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

11. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

12. Were target analytes reported as not detected in the laboratory blanks? — No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the following exceptions.

DRO was detected in the laboratory blanks for Method AK102 batch XFC16012 at a concentration of 7.11 mg/kg and for Method AK102 batch XFC16021 at a concentration of 0.214 mg/L. Non-detections of DRO in the associated samples and results greater than ten times the blank concentrations did not require qualification.

13. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? — Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although MS samples were not prepared for all analyses and/or batches. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analytes	Analytical Batch	Prep Batch	MS Sample Source
AK101	GRO	VFC15722	VXX37459	Not Prepared
AK101	GRO	VFC15741	VXX37534	Not Prepared
AK102	DRO	XFC16012	XXX45205	Not Prepared
AK102	DRO	XFC16021	XXX45241	Not Prepared
AK103	RRO	XFC16012	XXX45205	Not Prepared
AK103	RRO	XFC16021	XXX45241	Not Prepared
8260D	VOC	VMS20975	VXX37511	Not Associated
8270D	SVOC	XMS12793	XXX45228	Not Prepared
8270D	SVOC	XMS12795	XXX45228	Not Associated
8270D	SVOC	XMS12797	XXX45228	Not Associated
SM 2540G	Total Solids	SPT11325	-----	Not Prepared

Not Associated – The MS sample source was not associated with this project.
Not Prepared – Matrix spikes were not prepared for this batch

VALIDATION CRITERIA CHECKLIST

14. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? N/A

Comments: The percent recoveries and RPD values for MS/MSDs prepared from non-project samples were evaluated and considered, but data were not qualified based on those results since matrix similarity to project samples could not be guaranteed.

15. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples.

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS and LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits.

Method	Analyte	Prep Batch	LCS Recovery	LCS/LCSD QC Limits
8270D	2,4-Dinitrophenol	XXX45228	126%	62-113%
8270D	2-Methyl-4,6-dinitrophenol	XXX45228	144%	29-132%
8270D	Benzoic acid	XXX45228	146%	53-124%

The identified analytes were not detected in the associated samples and the results did not require qualification based on the evidence of potential high bias.

17. Were surrogate recoveries within laboratory QC limits? Yes

Comments: The surrogate recoveries for the analyses of the submitted samples were within method and laboratory QC limits.

18. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip, field, and equipment blanks collected was equal to at least 10% of the number of samples. Two trip blank samples, Trip Blank (aqueous – lab ID 1214315006) and Trip Blank (soil – lab ID 1214315010), and one equipment blank samples EB-7-15, were collected as part of this sample set.

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? Yes

Comments: Target analytes were reported as not detected in the trip blank and equipment blank samples.

20. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the number of environmental samples.

- Sample DUP-1 was collected as a field duplicate of sample MW-5.
- Sample DUP-SP-1 was collected as a field duplicate of sample SP-1.

21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? Yes

Comments: As indicated in the Field Duplicate Summary Tables at the end of this report, field duplicate RPD values were within data validation QC limits of 0-50% for soil samples.

RPDs could not be calculated for field duplicate pair MW-5 / DUP-1 since the target analytes were not detected in both samples. This was an acceptable result.

VALIDATION CRITERIA CHECKLIST	
22. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?	Yes
Comments: Laboratory duplicates were prepared for the analysis of total solids in analytical batch SPT11325 from samples not associated with this data set and from sample SP-1. The RPD values for the laboratory duplicate prepared from a project sample were within laboratory acceptance limits. The RPD values for the laboratory duplicate samples prepared from non-project samples were evaluated and considered, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.	
23. Were the following data relationships realistic and acceptable?	
• Target analytes were reported by more than one method (e.g., 8260/8270, EPH/8270), and the results were in agreement?	Yes
Comments: Target analytes 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, and naphthalene were reported by both Method 8260D and Method 8270D. These analytes were reported as not detected by both methods.	
• Both total and dissolved metals analyses were performed, and the total metals results were greater than or equal to the dissolved metals results?	N/A
Comments: Total and dissolved metals analyses were not performed for this data set.	

FIELD DUPLICATE SUMMARY

Client Sample ID: SP-1 Field Duplicate Sample ID: DUP-SP-1				
Analyte	**Method**	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
RRO	AK 103	921 mg/kg	1,100 mg/kg	17.7%
TPH DRO	AK 102	572 mg/kg	675 mg/kg	16.5%
Solids, Percent	SM 2540G	98.1 %	98.0 %	0.1%
Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA Region 1 - New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement2, September 2020.				

DATA QUALIFICATION SUMMARY

Data qualifiers were not applied as a result of this validation.

Laboratory Data Review Checklist

Completed By:

Maya Lehl

Title:

Staff Scientist

Date:

12/1/2021

Consultant Firm:

Trihydro Corp.

Laboratory Name:

SGS North America

Laboratory Report Number:

1215797

Laboratory Report Date:

09/29/2021

CS Site Name:

North Star Paving and Construction, Inc.

ADEC File Number:

Hazard Identification Number:

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

   SGS North America

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   Yes☒ No☐ N/A☒ Comments:

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   Receipt temperature 3.0°C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

   Yes☒ No☐ N/A☐ Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes☒ No☐ N/A☐ Comments:

Trip blank absent from cooler

e. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes☒ No☐ N/A☐ Comments:

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None indicated

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☒ No☐ N/A☐ Comments:

e. Data quality or usability affected?

Data quality or usability was not affected.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

NA

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☒ No☐ N/A☐ Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes☒ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes☒ No☐ N/A☐ Comments:

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

iv. Data quality or usability affected?

Comments:

Data quality or usability determined by project team.

e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☐ No☐ N/A☒ Comments:

Trip blank absent from cooler, proceeded without

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☐ No☐ N/A☒ Comments:

iii. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☒ Comments:

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☐ No☐ N/A☒ Comments:

ii. Submitted blind to lab?

Yes☐ No☐ N/A☒ Comments:

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A☒ Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)
Comments:

Data quality and usability not affected.

g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A☒ Comments:

NA- Soil sample

i. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☒ Comments:

ii. If above LOQ or project specified objectives, what samples are affected?
Comments:

NA

iii. Data quality or usability affected?
Comments:

Data quality or usability was not affected.

7. <u>Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)</u>

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

ATTACHMENT 3

FIELD FORMS AND FIELD NOTES

SGS North America Inc.
CHAIN OF CUSTODY RECORD

www.us.sgs.com

Instructions: Sections 1 - 5 must be filled out.
Omissions may delay the onset of analysis.

Section 1

CLIENT:	Trihydro		
CONTACT:	Maya Lehl	PHONE #:	907-598-7022
PROJECT NAME:	North Star Paving	PROJECT/ PWSID/ PERMIT#:	74A-001-001
REPORTS TO:	Maya Lehl	E-MAIL:	mlehl@trihydro.com
		Profile #:	
INVOICE TO:	Trihydro	QUOTE #:	
		P.O. #:	2021538

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incre-mental)	GRO AK101 (HCl)	DRO/RRO AK102/AK103 (HCl)	VOCs 8260 (MeOH)	DRO/RRO/SVOC AK102/AK103/8270	% Moisture						REMARKS/LOC ID
	MW-1	7/15/2021	13:21	W	5	Grab	3	2									
	MW-3	7/15/2021	11:30	W	5	Grab	3	2									
	MW-4	7/15/2021	12:09	W	5	Grab	3	2									
	MW-5	7/15/2021	12:45	W	5	Grab	3	2									
	DUP-1	7/15/2021	8:00	W	5	Grab	3	2									
	Trip Blank	7/15/2021	8:00	W	3	Grab	3										
	SP-1	7/15/2021	14:25	S	3	Grab			1	1	1						
	DUP-SP-1	7/15/2021	9:00	S	3	Grab			1	1	1						
	Trip Blank	7/15/2021	8:00	S	1	Grab			1								

Section 3 — Preservative

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 5

Relinquished By: (1)	Date 7-15-21	Time 15:15	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: _____ or Ambient [ ]

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery[ ] Commerical Delivery [ ]

LOW-FLOW GROUNDWATER SAMPLING LOG

MONITORING WELL ID: MW-1

Client: North Star
Project Number: 74A-001-001
Project Name:
Project Location: Sadotna
Sample Date: 7-15-21
Weather: Clear
Field Personnel: JY-ML

Static Water Level: 11.95'
Well Diameter (in): 2"
Depth to Bottom (ft BTOC): 17.19'
Pump Depth: 13'
Approx. Screen Interval (ft bgs): 7-17'
Expected Purge Rate (mL/min): n/a
Expected Purge Volume to Stability (gal): 2.67 gal = 3 well vol
Laboratory Analysis: GRO, DRO/RRO
Containers/Preservatives: 3 voa, 2-250 ml

SAMPLE ID: MW-1
SAMPLE TIME: 13:21
Duplicate Sample? (yes) (no)
Duplicate ID:
Time:
Total Volume of Water Purged (gal): 1.9

Time	Pumping Rate (mL/min)	Depth to Water (ft-bmp) < 0.33 ft Δ	Temp (deg C) ---	Sp. Con. (mS/cm^C) +/- 3%	DO (mg/L) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV) +/- 10mV	Turbidity (NTU) +/- 10%	Comments Groundwater appearance, odor, NAPL, purge interruptions, etc.
1306	Start								
1311	200	11.96	12.02	0.317	0.86	6.79	150.6	336	ND Sheen or odor
1315	200	11.97	9.36	0.318	0.54	6.76	146.6	21.75	
1319	200	11.98	8.96	0.313	0.54	6.77	143.2	8.50	
									EB-7-15 @ 13:35 GRO

LOW-FLOW GROUNDWATER SAMPLING LOG

MONITORING WELL ID: MW-3

Client: North Star
Project Number: 74A-001-001
Project Name:
Project Location: Soldotna AK
Sample Date: 7-15-21
Weather: Clear
Field Personnel: JY, MC

Static Water Level: 12.23
Well Diameter (in): 2"
Depth to Bottom (ft BTOC): 22.11'
Pump Depth: 17'
Approx. Screen Interval (ft bgs): 12-22'
Expected Purge Rate (mL/min): n/a
Expected Purge Volume to Stability (gal): 5.04 gal = 3 well volumes
Laboratory Analysis: GRO, DRO/RRO
Containers/Preservatives: 3 VOA, 2 -250 ml

SAMPLE ID: MW-3
SAMPLE TIME: 11:30

Duplicate Sample? (yes) (no)
Duplicate ID: **Time:**

Total Volume of Water Purged (gal): 4.5

Time	Pumping Rate (mL/min)	Depth to Water (ft-bmp) < 0.33 ft Δ	Temp (deg C) ---	Sp. Con. (mS/cm^C) +/- 3%	DO (mg/L) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV) +/- 10mV	Turbidity (NTU) +/- 10%	Comments Groundwater appearance, odor, NAPL, purge interruptions, etc.
1111	Start								
1115	500	12.26	8.57	0.281	1.53	5.93	261.3	615	
1119	500	12.25	8.43	0.273	0.97	6.14	259.8	501	
1123	500	12.25	8.14	0.272	0.71	6.20	257.4	229	
1127	500	12.24	8.54	0.269	0.73	6.21	254.2	175	

LOW-FLOW GROUNDWATER SAMPLING LOG

MONITORING WELL ID: MW-4

Client: North Star
Project Number: 74A-001-001
Project Name:
Project Location: Soldotna AK
Sample Date: 7-15-21
Weather: Clear
Field Personnel: JY-ML

Static Water Level: 8.99
Well Diameter (in):
Depth to Bottom (ft BTOC): 13.59
Pump Depth: 10'
Approx. Screen Interval (ft bgs): 3.5 - 13.5
Expected Purge Rate (mL/min): n/a
Expected Purge Volume to Stability (gal): 3 well vol = 2.35 gal
Laboratory Analysis: GRO, DRO/RRO
Containers/Preservatives: 3 VOA, 2-250mL

SAMPLE ID: MW-4
SAMPLE TIME: 12:09

Duplicate Sample? (yes) (no)
Duplicate ID:
Time:

Total Volume of Water Purged (gal): 2.8

Time	Pumping Rate (mL/min)	Depth to Water (ft-bmp) < 0.33 ft Δ	Temp (deg C) ---	Sp. Con. (mS/cm^C) +/- 3%	DO (mg/L) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV) +/- 10mV	Turbidity (NTU) +/- 10%	Comments Groundwater appearance, odor, NAPL, purge interruptions, etc.
1149	start								
1155	200	9.12	10.22	0.260	1.00	6.44	212.9	1019	
1159	200	9.11	7.94	0.271	0.22	6.49	214.0	284	
1203	200	9.11	9.35	0.272	0.16	6.44	213.5	158	
1207	200	9.12	9.40	0.274	0.11	6.45	209.7	122	

LOW-FLOW GROUNDWATER SAMPLING LOG

MONITORING WELL ID: MW-5

Client: North Star
Project Number: 74A-001-001
Project Name:
Project Location: Soldnta AK
Sample Date: 7-15-21
Weather: Clear
Field Personnel: JY-MC

Static Water Level: 8.24
Well Diameter (in):
Depth to Bottom (ft BTOC): 13.95
Pump Depth:
Approx. Screen Interval (ft bgs): 4-14
Expected Purge Rate (mL/min):
Expected Purge Volume to Stability (gal):
Laboratory Analysis: GRO DRO, RRO
Containers/Preservatives: 3 Vca, 2-250mL

SAMPLE ID: MW-5
SAMPLE TIME: 12:45

Duplicate Sample? (yes) (no)
Duplicate ID: Dup-1 Time: 08:00

Total Volume of Water Purged (gal):

Time	Pumping Rate (mL/min)	Depth to Water (ft-bmp) < 0.33 ft Δ	Temp (deg C) ---	Sp. Con. (mS/cm^C) +/-3%	DO (mg/L) +/- 10%	pH (S.U.) +/- 0.1	ORP (mV) +/- 10mV	Turbidity (NTU) +/- 10%	Comments Groundwater appearance, odor, NAPL, purge interruptions, etc.
1230	Start								
1235	250	8.26	10.26	0.429	0.41	6.75	174.7	694	
1239	250	8.25	10.25	0.428	0.38	6.77	174.5	270	
1243	250	8.26	10.07	0.427	0.31	6.74	171.4	192	

DAILY FIELD LOG

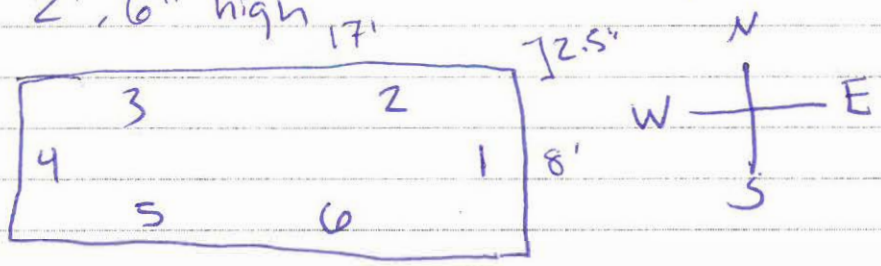
PROJECT NO: 74A-001-001	PROJECT NAME: North Start	DATE: 7-15-21

NAME: ML-JY

FIELD ACTIVITIES:

groundwater + soil sampling

FROM	TO	DESCRIPTION
10:00	13:30	groundwater sampling
	13:35	equipment Blank
		Note- soil has been combined to one stockpile
		8' wide
		17' long = 8 cubic yards
		2', 6" high



Small cobble 1"-4", very little sand + sediment

PID 1 = 0.9 ppm
2 = 1.0 ppm
3 = 3.4 ppm
4 = 1.4 ppm
5 = 0.6 ppm
6 = 0.5 ppm

Sampled at point 3
SP-1 @ 14:25 DRO, RRO, VOC, SVOC
Dup-SP-1 @ ~~09:00~~ ML 09:00
hand dug 1' into pile to collect sample
Clean stock pile no longer present, used to back fill?

1500 off site

ATTACHMENT 4

SURVEY DATA

North Star Monitoring Wells - Edge Survey and Design April 3, 2021

All elevations based on assumed data. Benchmark set with assumed elevation of 100.00'.

Benchmark is a spike in utility pole nearest southeast corner of existing building.

Wells 1,2 and 3 are above ground well case with pivoting cover.

Wells 4 and 5 flush with grade well case with removable cover.

PVC cap removed and highest side of case and PVC pipe measured.

Well Number	Top of Case Elevation	Top of PVC Elevation
1*	101.67'	101.49'
2**	101.63'	101.73'
3	102.13'	101.75'
4	98.68'	98.33'
5	97.75'	97.47'

* landowner replaced well 1

** Well 2 PVC is higher than case

Benchmark

Well 1

Well 2

Well 3

Well 4

Well 5