

November 2, 2023

Welsey Thomas
Oregon DEQ – Northwest Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Request for “No Longer Contained-In” Determination for non-hazardous soils generated during the rebuilding of containment area for new Siltronic Pretreatment oil water separator at NW Natural’s Gasco Facility, 7900 NW St. Helens Rd., Portland, Oregon

Dear Mr. Thomas,

Sevenson Environmental Services, Inc. (SES), on behalf of NW Natural, replaced an old oil-water separator between July and September 2023. During this process, the containment area had to be rebuilt for the larger unit. Soils from around and under the containment area were removed and stockpiled for testing and disposal.

The purpose of this letter is to request Oregon Department of Environmental Quality (DEQ) concurrence and approval of a “no longer contained-in” determination for approximately 100 cubic yards of petroleum-contaminated soils. A trace concentration of cis-1,2-dichloroethene (cis-1,2-DCE) was detected in the composite sample collected from stockpile soils, which would otherwise bear a F002-listed hazardous waste code (spent TCE halogenated solvent) due to a likely source from within the Siltronic TCE Contaminated Media Management Area (CMMA) as defined in the November 2021 draft *Contaminated Material Management Plan* (CMMP).¹

Anchor QEA, LLC, and Hahn and Associates, Inc., have prepared the draft CMMP for the Former Gasco Manufactured Gas Plant Gasco OU dated, November 19, 2021, on behalf of NW Natural. This request is consistent with our understanding of the DEQ comments on the draft CMMP provided to NW Natural in a letter dated May 4, 2022.²

NO LONGER CONTAINED-IN DETERMINATION

Per the draft CMMP, environmental media generated from within or associated with the TCE CMMA must be laboratory-tested, and contaminant concentration data must be evaluated to determine whether the waste would require disposal as Resource Conservation and Recovery Act (RCRA) spent halogenated solvent F002-listed hazardous waste (spent TCE halogenated solvent). For these wastes, a no longer contained-in determination is made based on a comparison to the DEQ risk-based concentrations (RBCs) for the Occupation Receptor Scenario of the Soil Ingestion, Dermal Contact, and Inhalation exposure pathway for the five TCE-related compounds. If soil wastes are impacted by Siltronic spent TCE or TCE-

¹ Anchor QEA and HAI (Anchor QEA, LLC and Hahn and Associates, Inc.), 2021. *Contaminated Materials Management Plan*. Prepared for NW Natural. November 19, 2021.

² DEQ, 2022. Letter to: Bob Wyatt, NW Natural. Regarding: Contaminated Management Plan. Former Gasco Manufactured Gas Plant Operable Unit Portland, Oregon, ECSI# 84. May 4, 2022

related compounds at concentrations greater than the threshold values provided in the Table 1, then the waste soil or sediment would require management as F002-listed hazardous waste.

Table 1: F002 Contained-in Hazardous Waste Threshold Values - Soils

Analyte	May 2018 DEQ RBCs (µg/kg)
1,1-Dichloroethene (1,1-DCE)	29,000,000
cis-1,2-Dichloroethene (cis-1,2-DCE)	2,300,000
trans-1,2-Dichloroethane (trans-1,2-DCE)	23,000,000
trichloroethene (TCE)	51,000
Vinyl chloride	4,400

Note:

µg/kg: micrograms per kilograms

SES collected two (2) composite soil samples from within the stored stockpile on site. Each sample consisted of a five-point composite of stockpiled soils. The two (2) composite samples were submitted to Apex Laboratories, LLC on October 2, 2023. APEX Lab homogenized them into one composite sample representative of soils from the stockpile. APEX analyzed the composite sample for: free liquids, total metals, leachable metals (toxicity characteristic leaching procedure (TCLP)), total petroleum hydrocarbons (TPH), total cyanide, total volatile organic compounds (VOCs), TCLP VOCs, semi-volatile organic compounds (SVOCs), and TCLP SVOCs.

As summarized in Table 2, cis-1,2-Dichloroethene was detected in the composite soil sample (APEX sample A3J0859-03) at an estimated concentration of 14.9 micrograms per kilogram (µg/kg).

Table 2: APEX lab results for F002 Related Compounds

Analyte	EPA Toxicity Characteristic (TC) Regulatory Threshold Values in µg/L	20x EPA Toxicity Characteristic (TC) Regulatory Threshold Values in µg/kg	F002 Contain-in Threshold Screening Values (µg/kg)	Results (µg/kg)	Qualifier
1,1-Dichloroethene (1,1-DCE)	700	14,000	29,000,000	<13.8	U
cis-1,2-Dichloroethene (cis-1,2-DCE)	--	--	2,300,000	14.9	J
trans-1,2-Dichloroethane (trans-1,2-DCE)	--	--	23,000,000	<13.8	U
trichloroethene (TCE)	500	10,000	51,000	<12.5	U
Vinyl chloride	200	4,000	4,400	<12.5	U

Notes:

Bold: detected analyte

J: estimated concentration

U: Analyte is not detected above the MDL

--: no EPA limit or 20x TCLP limit established

The detected concentration of cis-1,2-Dichloroethene is well below the DEQ May 2018 RBC for Occupational Exposure by Ingestion, Dermal Contact, and Inhalation used for evaluating the applicability

of an F002 waste code for soil. Results of analytical data are provided in Table 3. Laboratory analytical results and chain-of-custody documentation are provided in Attachment 1.

Though not material to this “no longer contained-in” request for DEQ’s information we are also providing laboratory data establishing that soil does not exhibit the toxicity characteristic regulatory levels. These regulatory levels are based on leachate concentrations tested by toxicity characteristic leaching procedure (TCLP) methodology. Total concentration analytical results were screened against EPA’s TCLP regulatory levels multiplied by 20 (Table 3) to account for attenuation that occurs during the leaching process. No exceedances of the 20x screening values were present in the composite sample, and no exceedances were identified through actual TCLP testing.

Conclusion

Cis-1,2-DCE was detected at a low level, well below the F002 hazardous waste screening level for this constituent. The remaining breakdown products of TCE (1,1-DCE, trans-1,2-DCE, TCE, and vinyl chloride) were not detected above the laboratory MDLs. All MDLs reported by the laboratory were below the DEQ May 2018 RBCs for Occupational Exposure by Ingestion, Dermal Contact, and Inhalation. Based on review of analytical data and generator knowledge:

- Concentrations of detected constituents are below toxicity characteristic levels.
- The F002-listed constituent detected in the soil does not pose an unacceptable risk under an occupational scenario and other F002-listed constituents were not detected.

Based on the preceding, the soil does not exhibit the characteristics of hazardous waste, and detected cis-1,2 DCE is well below DEQ’s occupational RBCs. The soil meets the criteria for no longer containing listed waste, and NW Natural requests a “no longer contained-in” determination from DEQ to confirm the classification of this soil as non-hazardous waste.

Please contact me if you have any questions.

Thank You,



William Byrd
WWTP Superintendent
Sevenson Environmental Services

Cc: Robert Wyatt (NW Natural), Patty Dost (Pearl Legal Group), Rob Ede (Hahn and Associates), Tim Stone (Anchor QEA), Jen Mott (Anchor QEA), and Mike Crystal (Sevenson Environmental Services)

Table

Table 3 – APEX Charted Lab Results

Attachment

APEX Lab Reports # A3J0859

Table

Table 3: APEX Charted Lab Results

			Soil Sample 10-2023	
Sample ID			Soils 10-02-2023-3	
LAB ID			A3J0859-03	
EPA Toxicity Characteristic (TC) Regulatory Threshold Values			Results	Qualifier
20x EPA TC values in ug/kg*			Actual EPA TC values in ug/L	
Diesel (ug/kg dry)			<103000	
Oil (ug/kg dry)			1700000	F-13
Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx (ug/kg dry)			59500	
Volatile Organic Compounds by EPA 8260D			ug/kg dry	
Acetone			<552	
Acrylonitrile			<55.2	
Benzene	10,000	500	39.7	
Bromobenzene			<13.8	
Bromochloromethane			<27.6	
Bromodichloromethane			<27.6	
Bromoform			<55.2	
Bromomethane			<552	
2-Butanone (MEK)	4,000,000	200,000	<276	
n-Butylbenzene			<27.6	
sec-Butylbenzene			<27.6	
tert-Butylbenzene			<27.6	
Carbon disulfide			<276	
Carbon tetrachloride	10,000	500	<27.6	
Chlorobenzene	2,000,000	100,000	<13.8	
Chloroethane			<276	
Chloroform	120,000	6,000	<27.6	
Chloromethane			<138	
2-Chlorotoluene			<27.6	
4-Chlorotoluene			<27.6	
Dibromochloromethane			<55.2	
1,2-Dibromo-3-chloropropane			<138	
1,2-Dibromoethane (EDB)			<27.6	
Dibromomethane			<27.6	
1,2-Dichlorobenzene			<13.8	
1,3-Dichlorobenzene			<13.8	
1,4-Dichlorobenzene	150,000	7,500	<13.8	
Dichlorodifluoromethane			<55.2	
1,1-Dichloroethane			<13.8	
1,2-Dichloroethane (EDC)	10,000	500	<13.8	
1,1-Dichloroethene	14,000	700	<13.8	
cis-1,2-Dichloroethene			14.9	J
trans-1,2-Dichloroethene			<13.8	
1,2-Dichloropropane			<13.8	
1,3-Dichloropropane			<27.6	
2,2-Dichloropropane			<27.6	
1,1-Dichloropropene			<27.6	
cis-1,3-Dichloropropene			<27.6	
trans-1,3-Dichloropropene			<27.6	
Ethylbenzene			122	
Hexachlorobutadiene	10,000	500	<55.2	
2-Hexanone			<276	
Isopropylbenzene			<27.6	
4-Isopropyltoluene			<27.6	
Methylene chloride			<276	
4-Methyl-2-pentanone (MiBK)			<276	
Methyl tert-butyl ether (MTBE)			<27.6	

Table 3: APEX Charted Lab Results

Naphthalene			22,200	
n-Propylbenzene			13.8	J
Styrene			<27.6	
1,1,1,2-Tetrachloroethane			<13.8	
1,1,2,2-Tetrachloroethane			<27.6	
Tetrachloroethene (PCE)	14,000	700	<13.8	
Toluene			<27.6	
1,2,3-Trichlorobenzene			<138	
1,2,4-Trichlorobenzene			<138	
1,1,1-Trichloroethane			<13.8	
1,1,2-Trichloroethane			<13.8	
Trichloroethene (TCE)	10,000	500	<13.8	
Trichlorofluoromethane			<138	EST
1,2,3-Trichloropropane			<27.6	
1,2,4-Trimethylbenzene			153	
1,3,5-Trimethylbenzene			45.2	J
Vinyl chloride	4,000	200	<13.8	
m,p-Xylene			100	
o-Xylene			54.1	
TCLP Volatile Organic Compounds by EPA1311/8260D			ug/L	
Acetone			<500	
Benzene	10,000	500	<6.25	
Bromobenzene			<12.5	
Bromochloromethane			<25.0	
Bromodichloromethane			<25.0	
Bromoform			<25.0	
Bromomethane			<250	
2-Butanone (MEK)	4,000,000	200,000	<250	
n-Butylbenzene			<25.0	
sec-Butylbenzene			<25.0	
tert-Butylbenzene			<25.0	
Carbon tetrachloride	10,000	500	<25.0	
Chlorobenzene	2,000,000	100,000	<12.5	
Chloroethane			<250	
Chloroform	120,000	6,000	<25.0	
Chloromethane			<125	
2-Chlorotoluene			<25.0	
4-Chlorotoluene			<25.0	
1,2-Dibromo-3-chloropropane			<125	
Dibromochloromethane			<25.0	
1,2-Dibromoethane (EDB)			<12.5	
Dibromomethane			<25.0	
1,2-Dichlorobenzene			<12.5	
1,3-Dichlorobenzene			<12.5	
1,4-Dichlorobenzene	150,000	7,500	<12.5	
Dichlorodifluoromethane			<25.0	
1,1-Dichloroethane			<12.5	
1,1-Dichloroethene	14,000	700	<12.5	
1,2-Dichloroethane (EDC)	10,000	500	<12.5	
cis-1,2-Dichloroethene			<25.0	
trans-1,2-Dichloroethene			<12.5	
1,2-Dichloropropane			<12.5	
1,3-Dichloropropane			<25.0	
2,2-Dichloropropane			<25.0	
1,1-Dichloropropene			<25.0	
cis-1,3-Dichloropropene			<25.0	
trans-1,3-Dichloropropene			<25.0	
Ethylbenzene			<12.5	

Table 3: APEX Charted Lab Results

Hexachlorobutaldiene	10,000	500	<125	
2-Hexanone			<250	
Isopropylbenzene			<25.0	
4-Isopropyltoluene			<25.0	
4-Methyl-2-pentanone (MiBK)			<250	
Methyl tert-butyl ether (MTBE)			<25.0	
Methylene chloride			<1000	A-01
n-Propylbenzene			<12.5	
Stryrene			<25.0	
1,1,1,2-Tetrachloroethane			<12.5	
1,1,2,2-Tetrachloroethane			<12.5	
Naphthalene			<50.0	
Tetrachloroethene (PCE)	14,000	700	<12.5	
Toluene			<25.0	
1,2,3-Trichlorobenzene			<25.0	
1,2,4-Trichlorobenzene			<50.0	
1,1,1-Trichloroethane			<12.5	
1,1,2-Trichloroethane			<12.5	
Trichloroethene (TCE)	10,000	500	<12.5	
Trichlorofluoromethane			<50.0	
1,2,3-Trichloropropane			<25.0	
1,2,4-Trimethylbenzene			<25.0	
1,3,5-Trimethylbenzene			<25.0	
Vinyl chloride	4,000	200	<12.5	
m,p-Xylene			<25.0	
o-Xylene			<12.5	
Mercury by Cold Vapor Atomic Fluorescence				
Semivolatile Organic Compounds by EPA 8270E			ug/kg dry	
Acenaphthene			4,540	J
Acenaphthylene			6,970	Q-42
Anthracene			7,200	Q-42
Benz(a)anthracene			30,700	
Benzo(a)pyrene			66,700	
Benzo(b)fluoranthene			62,900	
Benzo(k)fluoranthene			20,600	M-05
Benzo(g,h,i)perylene			72,700	
Chrysene			49,000	
Dibenz(a,h)anthracene			7,990	
Fluoranthene			56,700	Q-42
Fluorene			<2760	Q-37, Q-42
Indeno(1,2,3-cd)pyrene			56,100	
1-MethInaphthalene			<5540	Q-37, Q-42
2-MethInaphthalene			<5540	Q-37, Q-42
Naphthalene			7,480	Q-37, Q-42, J
Phenanthrene			36,700	Q-42
Pyrene			81,100	
Carbazole			<4150	Q-37, Q-42
Dibenzofuran			<2760	
2-Chlorophenol			<13900	
4-Chloro-3-methylphenol			<27600	
2,4-Dichlorophenol			<13900	
2,4-Dimethylphenol			<13900	
2,4-Dinitrophenol			<69200	
4,6-Dinitro-2-methylphenol			<69200	
2-Methylphenol	4,000,000	200,000	<6920	
3+4-Methylphenol(s)			<6920	
2-Niptrophenol			<27600	

Table 3: APEX Charted Lab Results

4-Nitrophenol			<27600	
Pentachlorophenol(PCP)	2,000,000	100,000	<27600	
Phenol			<5540	
2,3,4,6-Tetrachlorophenol			<13900	
2,3,5,6-Tetrachlorophenol			<13900	
2,4,5-Trichlorophenol	8,000,000	400,000	<13900	
2,4,6-Trichlorophenol	40,000	2,000	<13900	
Bis(2-ethylhexyl)phthalate			<41500	
Butyl benzyl phtalate			<27600	
Diethylphthalate			<27600	
Dimethylphthalate			<27600	
Di-n-butylphthalate			<27600	
Di-n-octyl phthalate			<27600	
N-Nitrosodimethylamine			<6920	
N-Nitroso-di-n-propylamine			<6920	
N-Nitrosodiphenylamine			<6920	
Bis(2-Chloroethoxy) methane			<6920	
Bis(2-Chloroethyl) ether			<6920	
2,2'- Oxybis (1-Chloropropane)			<6920	
Hexachlorobenzene	2,600	130	<2760	
Hexachlorobutadiene	10,000	500	<6920	
Hexachlorocyclopentadiene			<13900	
Hexachloroethane	60,000	3,000	<6920	
2-Chloronaphthalene			<2760	
1,2,4-Trichlorobenzene			<6920	
4-Bromophenyl phenyl ether			<6920	
4-Chlorophenyl phenyl ether			<6920	
Aniline			<13900	
4-Chloroaniline			<6920	
2-Nitroaniline			<55400	
3-Nitroaniline			<55400	
4-Nitroaniline			<55400	
Nitrobenzene	40,000	2,000	<27600	
2,4-Dinitrotoluene	2,600	130	<27600	
2,6-Dinitrotoluene			<27600	
Benzoic acid			<347000	
Benzyl alcohol			<13900	
Isophorone			<6920	
Azobenzene (1,2-DPH)			<6920	
Bis(2-Ethylhexyl)adipate			<69200	
3,3'-Dichlorobenzidine			<55400	Q-52
1,2-Dinitrobenzene			<69200	
1,3-Dinitrobenzene			<69200	
1,4-Dinitrobenzene			<69200	
Pyridine	100,000	5,000	<13900	
1,2-Dichlorobenzene			<6920	
1,3-Dichlorobenzene			<6920	
1,4-Dichlorobenzene	150,000	7,500	<6920	
TCLP Semivolatile Organic Compounds by EPA 8270D (ug/L)				
			ug/L	
Acenaphthene			<1.00	
Acenaphthylene			<1.00	
Anthracene			<1.00	
Benz(a)anthracene			<1.00	
Benzo(a)pyrene			<1.50	
Benzo(b)fluoranthene			<1.50	
Benzo(k)fluoranthene			<1.50	
Benzo(g,h,i)perylene			<1.00	

Table 3: APEX Charted Lab Results

Chrysene			<1.00	
Dibenz(a,h)anthracene			<1.00	
Fluoranthene			<1.00	
Fluorene			<1.00	
Indeno(1,2,3-cd)pyrene			<1.00	
1-Methlnaphthalene			<2.00	
2-Methlnaphthalene			<2.00	
Naphthalene			3.31	J
Phenanthrene			1.56	J
Pyrene			<1.00	
Carbazole			<1.50	
Dibenzofuran			<1.00	
2-Chlorophenol			<5.00	
4-Chloro-3-methylphenol			<10.0	
2,4-Dichlorophenol			<5.00	
2,4-Dimethylphenol			<5.00	
2,4-Dinitrophenol			<25.0	
4,6-Dinitro-2-methylphenol			<25.0	
2-Methylphenol	4,000,000	200,000	<2.50	
3+4-Methylphenol(s)			<2.50	
2-Nitrophenol			<10.0	
4-Nitrophenol			<10.0	
Pentachlorophenol(PCP)	2,000,000	100,000	<10.0	
Phenol			<20.0	
2,3,4,6-Tetrachlorophenol			<5.00	
2,3,5,6-Tetrachlorophenol			<5.00	
2,4,5-Trichlorophenol	8,000,000	400,000	<5.00	
2,4,6-Trichlorophenol	40,000	2,000	<5.00	
Bis(2-ethylhexyl)phthalate			<20.0	
Butyl benzyl phthalate			<20.0	
Diethylphthalate			<20.0	
Dimethylphthalate			<20.0	
Di-n-butylphthalate			<20.0	
Di-n-octyl phthalate			<20.0	
N-Nitrosodimethylamine			<2.50	
N-Nitroso-di-n-propylamine			<2.50	
N-Nitrosodiphenylamine			<2.50	
Bis(2-Chloroethoxy) methane			<2.50	
Bis(2-Chloroethyl) ether			<2.50	
2,2'- Oxybis (1-Chloropropane)			<2.50	
Hexachlorobenzene	2,600	130	<1.00	
Hexachlorobutadiene	10,000	500	<2.50	
Hexachlorocyclopentadiene			<5.00	
Hexachloroethane	60,000	3,000	<2.50	
2-Chloronaphthalene			<1.00	
1,2,4-Trichlorobenzene			<0.500	
4-Bromophenyl phenyl ether			<2.50	
4-Chlorophenyl phenyl ether			<2.50	
Aniline			<5.00	
4-Chloroaniline			<2.50	
2-Nitroaniline			<20.0	
3-Nitroaniline			<20.0	
4-Nitroaniline			<20.0	
Nitrobenzene	40,000	2,000	<10.0	
2,4-Dinitrotoluene	2,600	130	<10.0	
2,6-Dinitrotoluene			<10.0	
Benzoic acid			<125	
Benzyl alcohol			<10.0	

Table 3: APEX Charted Lab Results

Isophorone			<2.50	
Azobenzene (1,2-DPH)			<2.50	
Bis(2-Ethylhexyl)adipate			<25.0	
3,3'-Dichlorobenzidine				
1,2-Dinitrobenzene			<25.0	
1,3-Dinitrobenzene			<25.0	
1,4-Dinitrobenzene			<25.0	
Pyridine	100,000	5,000	<10.0	
1,2-Dichlorobenzene			<2.50	
1,3-Dichlorobenzene			<2.50	
1,4-Dichlorobenzene	150,000	7,500	<2.50	
Total Metals by EPA 6020B(ICPMS)				
			ug/kg dry	
Arsenic	100,000	5,000	1510	COMP
Barium	2,000,000	100,000	84000	COMP
Cadmium	20,000	1,000	147	COMP,J
Chromium	100,000	5,000	6480	COMP
Lead	100,000	5,000	14700	COMP
Mercury	4,000	200	172	COMP
Selenium	20,000	1,000	<511	COMP
Silver	100,000	5,000	<102	COMP
TCLP Metals by EPA 6020B (ICPMS)				
			ug/L	
Arsenic	100,000	5,000	<50.0	COMP
Barium	2,000,000	100,000	<2500	COMP
Cadmium	20,000	1,000	<50.0	COMP
Chromium	100,000	5,000	<50.0	COMP
Lead	100,000	5,000	<25.0	COMP
Mercury	4,000	200	<3.75	COMP
Selenium	20,000	1,000	<50.0	COMP
Silver	100,000	5,000	<50.0	COMP
Conventionals				
Cyanide - Total (Non-Aqueous Water Leach) by EPA 9013M/9014 (ug/kg dry)				
Total Cyanide (ug/kg dry)			2860	Q-42
Percent Dry Weight by EPA 8000C or Free Liquid (mL)				
%Solids			94.4	
Heat of Combustion BTU/LB (D-240)				

NOTES:

*If laboratory results from the totals test reported in ug/kg exceed the "20x TC Threshold" value, then see results of the TCLP test for direct comparison to actual TC regulatory levels reported in ug/L for regulatory status determination.

A-01 = [Custom Value]

COMP = Sample is a composite of discrete samples. See prep information for details.

EST = Result reported as an Estimated Value. Result estimated. Initial Calibration Verification Standard (ICV) failed low.

F-13 = The chromatographic pattern does not resemble the fuel standard used for quantitation

J = Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.

M-05 = Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.

Q-37 = Sample is non-homogenous. Sample results are less than MRL and duplicate results have hits greater than the MRL. See Duplicate results.

Q-42 = Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits.

Q-52 = Due to erratic or low blank spike recoveries, results for this analyte are considered Estimated Values.

Attachment



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Wednesday, October 18, 2023

Chip Byrd
Sevenson Environmental Services, Inc.
2749 Lockport Road
Niagara Falls, NY 14305

RE: A3J0859 - Gasco - Soil Residuals - 111323

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3J0859, which was received by the laboratory on 10/3/2023 at 10:05:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.
(See Cooler Receipt Form for details)
Default Cooler 1.0 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report. All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



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Darwin Thomas signature

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Darwin Thomas, Business Development Director



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Soils 10-02-2023-01	A3J0859-01	Soil	10/02/23 21:00	10/03/23 10:05
Soils 10-02-2023-02	A3J0859-02	Soil	10/02/23 21:00	10/03/23 10:05
Soils 10-02-2023-Composite	A3J0859-03	Soil	10/02/23 21:00	10/03/23 10:05

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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03RE1)				Matrix: Soil		Batch: 23J0476		COMP
Diesel	ND	103000	206000	ug/kg dry	10	10/16/23 06:53	NWTPH-Dx	
Oil	1700000	206000	412000	ug/kg dry	10	10/16/23 06:53	NWTPH-Dx	F-13
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>	<i>10</i>	<i>10/16/23 06:53</i>	<i>NWTPH-Dx</i>	<i>S-05</i>

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ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0101		COMP
Gasoline Range Organics	59500	2760	5520	ug/kg dry	50	10/04/23 17:01	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/04/23 17:01</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>			<i>97 %</i>	<i>50-150 %</i>	<i>1</i>	<i>10/04/23 17:01</i>	<i>NWTPH-Gx (MS)</i>	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0101		COMP
Acetone	ND	552	1100	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Acrylonitrile	ND	55.2	110	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Benzene	39.7	5.52	11.0	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Bromobenzene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Bromochloromethane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Bromodichloromethane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Bromoform	ND	55.2	110	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Bromomethane	ND	552	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
2-Butanone (MEK)	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
n-Butylbenzene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
sec-Butylbenzene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
tert-Butylbenzene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Carbon disulfide	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Carbon tetrachloride	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Chlorobenzene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Chloroethane	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Chloroform	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Chloromethane	ND	138	276	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
2-Chlorotoluene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
4-Chlorotoluene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Dibromochloromethane	ND	55.2	110	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2-Dibromo-3-chloropropane	ND	138	276	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Dibromomethane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2-Dichlorobenzene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,3-Dichlorobenzene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,4-Dichlorobenzene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Dichlorodifluoromethane	ND	55.2	110	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1-Dichloroethane	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1-Dichloroethene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
cis-1,2-Dichloroethene	14.9	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	J
trans-1,2-Dichloroethene	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0101		COMP
1,2-Dichloropropane	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,3-Dichloropropane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
2,2-Dichloropropane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1-Dichloropropene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
cis-1,3-Dichloropropene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
trans-1,3-Dichloropropene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Ethylbenzene	122	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Hexachlorobutadiene	ND	55.2	110	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
2-Hexanone	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Isopropylbenzene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
4-Isopropyltoluene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Methylene chloride	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
4-Methyl-2-pentanone (MIBK)	ND	276	552	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
n-Propylbenzene	13.8	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	J
Styrene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1,1,2-Tetrachloroethane	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1,2,2-Tetrachloroethane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Tetrachloroethene (PCE)	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Toluene	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2,3-Trichlorobenzene	ND	138	276	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2,4-Trichlorobenzene	ND	138	276	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1,1-Trichloroethane	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,1,2-Trichloroethane	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Trichloroethene (TCE)	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
Trichlorofluoromethane	ND	138	276	ug/kg dry	50	10/04/23 17:01	5035A/8260D	EST
1,2,3-Trichloropropane	ND	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,2,4-Trimethylbenzene	153	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
1,3,5-Trimethylbenzene	45.2	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	J
Vinyl chloride	ND	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
m,p-Xylene	100	27.6	55.2	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
o-Xylene	54.1	13.8	27.6	ug/kg dry	50	10/04/23 17:01	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>10/04/23 17:01</i>	<i>5035A/8260D</i>

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0101		COMP
<i>Surrogate: Toluene-d8 (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>10/04/23 17:01</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>79-120 %</i>		<i>1</i>	<i>10/04/23 17:01</i>	<i>5035A/8260D</i>
Soils 10-02-2023-Composite (A3J0859-03RE1)				Matrix: Soil		Batch: 23J0178		COMP
Naphthalene	22200	552	1100	ug/kg dry	500	10/05/23 19:45	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>10/05/23 19:45</i>	<i>5035A/8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>1</i>	<i>10/05/23 19:45</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>79-120 %</i>		<i>1</i>	<i>10/05/23 19:45</i>	<i>5035A/8260D</i>

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ANALYTICAL SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0304		COMP
Acetone	ND	500	1000	ug/L	50	10/10/23 05:21	1311/8260D	
Benzene	ND	6.25	12.5	ug/L	50	10/10/23 05:21	1311/8260D	
Bromobenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Bromochloromethane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Bromodichloromethane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Bromoform	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Bromomethane	ND	250	250	ug/L	50	10/10/23 05:21	1311/8260D	
2-Butanone (MEK)	ND	250	500	ug/L	50	10/10/23 05:21	1311/8260D	
n-Butylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
sec-Butylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
tert-Butylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Chlorobenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Chloroethane	ND	250	250	ug/L	50	10/10/23 05:21	1311/8260D	
Chloroform	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Chloromethane	ND	125	250	ug/L	50	10/10/23 05:21	1311/8260D	
2-Chlorotoluene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
4-Chlorotoluene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/L	50	10/10/23 05:21	1311/8260D	
Dibromochloromethane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2-Dibromoethane (EDB)	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Dibromomethane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Dichlorodifluoromethane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,1-Dichloroethane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
cis-1,2-Dichloroethene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2-Dichloropropane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,3-Dichloropropane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	

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ANALYTICAL SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)			Matrix: Soil		Batch: 23J0304			COMP
2,2-Dichloropropane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,1-Dichloropropene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
cis-1,3-Dichloropropene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
trans-1,3-Dichloropropene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Ethylbenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Hexachlorobutadiene	ND	125	250	ug/L	50	10/10/23 05:21	1311/8260D	
2-Hexanone	ND	250	500	ug/L	50	10/10/23 05:21	1311/8260D	
Isopropylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
4-Isopropyltoluene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
4-Methyl-2-pentanone (MiBK)	ND	250	500	ug/L	50	10/10/23 05:21	1311/8260D	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Methylene chloride	ND	1000	1000	ug/L	50	10/10/23 05:21	1311/8260D	A-01
n-Propylbenzene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Styrene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Naphthalene	ND	50.0	100	ug/L	50	10/10/23 05:21	1311/8260D	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,1,2,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Toluene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2,3-Trichlorobenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2,4-Trichlorobenzene	ND	50.0	100	ug/L	50	10/10/23 05:21	1311/8260D	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
Trichlorofluoromethane	ND	50.0	100	ug/L	50	10/10/23 05:21	1311/8260D	
1,2,3-Trichloropropane	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
Vinyl chloride	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
m,p-Xylene	ND	25.0	50.0	ug/L	50	10/10/23 05:21	1311/8260D	
o-Xylene	ND	12.5	25.0	ug/L	50	10/10/23 05:21	1311/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>10/10/23 05:21</i>	<i>1311/8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>10/10/23 05:21</i>	<i>1311/8260D</i>

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Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0304		COMP
<i>Surrogate: 4-Bromofluorobenzene (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>10/10/23 05:21</i>	<i>1311/8260D</i>

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Darwin Thomas, Business Development Director



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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0380		COMP
Acenaphthene	4540	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	J
Acenaphthylene	6970	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-42
Anthracene	7200	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-42
Benz(a)anthracene	30700	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Benzo(a)pyrene	66700	4150	8310	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Benzo(b)fluoranthene	62900	4150	8310	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Benzo(k)fluoranthene	20600	4150	8310	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	M-05
Benzo(g,h,i)perylene	72700	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Chrysene	49000	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Dibenz(a,h)anthracene	7990	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Fluoranthene	56700	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-42
Fluorene	ND	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-37, Q-42
Indeno(1,2,3-cd)pyrene	56100	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
1-Methylnaphthalene	ND	5540	11100	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-37, Q-42
2-Methylnaphthalene	ND	5540	11100	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-37, Q-42
Naphthalene	7480	5540	11100	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-37, Q-42, J
Phenanthrene	36700	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-42
Pyrene	81100	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Carbazole	ND	4150	8310	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-37, Q-42
Dibenzofuran	ND	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2-Chlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Chloro-3-methylphenol	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4-Dichlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4-Dimethylphenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4-Dinitrophenol	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4,6-Dinitro-2-methylphenol	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2-Methylphenol	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
3+4-Methylphenol(s)	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2-Nitrophenol	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Nitrophenol	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Pentachlorophenol (PCP)	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Phenol	ND	5540	11100	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,3,4,6-Tetrachlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0380		COMP
2,3,5,6-Tetrachlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4,5-Trichlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4,6-Trichlorophenol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	41500	83100	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Butyl benzyl phthalate	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Diethylphthalate	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Dimethylphthalate	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Di-n-butylphthalate	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Di-n-octyl phthalate	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
N-Nitrosodimethylamine	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
N-Nitroso-di-n-propylamine	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
N-Nitrosodiphenylamine	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Bis(2-Chloroethoxy) methane	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Bis(2-Chloroethyl) ether	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,2'-Oxybis(1-Chloropropane)	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Hexachlorobenzene	ND	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Hexachlorobutadiene	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Hexachlorocyclopentadiene	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Hexachloroethane	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2-Chloronaphthalene	ND	2760	5540	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
1,2,4-Trichlorobenzene	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Bromophenyl phenyl ether	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Chlorophenyl phenyl ether	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Aniline	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Chloroaniline	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2-Nitroaniline	ND	55400	111000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
3-Nitroaniline	ND	55400	111000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
4-Nitroaniline	ND	55400	111000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Nitrobenzene	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,4-Dinitrotoluene	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
2,6-Dinitrotoluene	ND	27600	55400	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Benzoic acid	ND	347000	692000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	
Benzyl alcohol	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0380		COMP	
Isophorone	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
Azobenzene (1,2-DPH)	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
Bis(2-Ethylhexyl) adipate	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
3,3'-Dichlorobenzidine	ND	55400	111000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E	Q-52	
1,2-Dinitrobenzene	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
1,3-Dinitrobenzene	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
1,4-Dinitrobenzene	ND	69200	139000	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
Pyridine	ND	13900	27600	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
1,2-Dichlorobenzene	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
1,3-Dichlorobenzene	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
1,4-Dichlorobenzene	ND	6920	13900	ug/kg dry	2000	10/11/23 20:46	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 114 %</i>		<i>Limits: 37-122 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>120 %</i>		<i>44-120 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>Phenol-d6 (Surr)</i>		<i>%</i>		<i>33-122 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-01</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>166 %</i>		<i>54-127 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>2-Fluorophenol (Surr)</i>		<i>%</i>		<i>35-120 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-01</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>%</i>		<i>39-132 %</i>		<i>2000</i>	<i>10/11/23 20:46</i>	<i>EPA 8270E</i>	<i>S-01</i>

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ANALYTICAL SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03RE1)				Matrix: Soil		Batch: 23J0174		COMP
Acenaphthene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Acenaphthylene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Anthracene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benz(a)anthracene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzo(a)pyrene	ND	1.50	3.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzo(b)fluoranthene	ND	1.50	3.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzo(k)fluoranthene	ND	1.50	3.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzo(g,h,i)perylene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Chrysene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Dibenz(a,h)anthracene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Fluoranthene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Fluorene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Indeno(1,2,3-cd)pyrene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
1-Methylnaphthalene	ND	2.00	4.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Methylnaphthalene	ND	2.00	4.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Naphthalene	3.31	2.00	4.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	J
Phenanthrene	1.56	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	J
Pyrene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Carbazole	ND	1.50	3.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Dibenzofuran	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Chlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Chloro-3-methylphenol	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4-Dichlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4-Dimethylphenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4-Dinitrophenol	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4,6-Dinitro-2-methylphenol	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Methylphenol	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
3+4-Methylphenol(s)	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Nitrophenol	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Nitrophenol	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Pentachlorophenol (PCP)	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Phenol	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,3,4,6-Tetrachlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03RE1)				Matrix: Soil		Batch: 23J0174		COMP
2,3,5,6-Tetrachlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4,5-Trichlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4,6-Trichlorophenol	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Bis(2-ethylhexyl)phthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Butyl benzyl phthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Diethylphthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Dimethylphthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Di-n-butylphthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Di-n-octyl phthalate	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
N-Nitrosodimethylamine	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
N-Nitroso-di-n-propylamine	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
N-Nitrosodiphenylamine	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Bis(2-Chloroethoxy) methane	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Bis(2-Chloroethyl) ether	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,2'-Oxybis(1-Chloropropane)	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Hexachlorobenzene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Hexachlorocyclopentadiene	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Hexachloroethane	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Chloronaphthalene	ND	1.00	2.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
1,2,4-Trichlorobenzene	ND	0.500	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Bromophenyl phenyl ether	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Chlorophenyl phenyl ether	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Aniline	ND	5.00	10.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Chloroaniline	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2-Nitroaniline	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
3-Nitroaniline	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
4-Nitroaniline	ND	20.0	40.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Nitrobenzene	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,4-Dinitrotoluene	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
2,6-Dinitrotoluene	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzoic acid	ND	125	250	ug/L	10	10/09/23 21:32	1311/8270E-LL	
Benzyl alcohol	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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ANALYTICAL SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
Soils 10-02-2023-Composite (A3J0859-03RE1)				Matrix: Soil		Batch: 23J0174		COMP	
Isophorone	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL		
Azobenzene (1,2-DPH)	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL		
Bis(2-Ethylhexyl) adipate	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,2-Dinitrobenzene	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,3-Dinitrobenzene	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,4-Dinitrobenzene	ND	25.0	50.0	ug/L	10	10/09/23 21:32	1311/8270E-LL		
Pyridine	ND	10.0	20.0	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,2-Dichlorobenzene	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,3-Dichlorobenzene	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL		
1,4-Dichlorobenzene	ND	2.50	5.00	ug/L	10	10/09/23 21:32	1311/8270E-LL		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 44-120 %</i>		<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>75 %</i>		<i>44-120 %</i>	<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>
<i>Phenol-d6 (Surr)</i>				<i>29 %</i>		<i>10-133 %</i>	<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>101 %</i>		<i>50-134 %</i>	<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>
<i>2-Fluorophenol (Surr)</i>				<i>49 %</i>		<i>19-120 %</i>	<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>52 %</i>		<i>43-140 %</i>	<i>10</i>	<i>10/09/23 21:32</i>	<i>1311/8270E-LL</i>

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil					
Batch: 23J0499									
Arsenic	1510	511	1020	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Barium	84000	511	1020	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Cadmium	147	102	204	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP,J	
Chromium	6480	511	1020	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Lead	14700	102	204	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Mercury	172	40.9	81.8	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Selenium	ND	511	1020	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	
Silver	ND	102	204	ug/kg dry	10	10/13/23 20:09	EPA 6020B	COMP	

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ANALYTICAL SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil					
Batch: 23J0175									
Arsenic	ND	50.0	100	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Barium	ND	2500	5000	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Cadmium	ND	50.0	100	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Chromium	ND	50.0	100	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Lead	ND	25.0	50.0	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Mercury	ND	3.75	7.00	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Selenium	ND	50.0	100	ug/L	10	10/05/23 16:54	1311/6020B	COMP	
Silver	ND	50.0	100	ug/L	10	10/05/23 16:54	1311/6020B	COMP	

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ANALYTICAL SAMPLE RESULTS

Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0220		COMP
Total Cyanide	2860	264	527	ug/kg dry	5	10/06/23 19:12	D7511-12	Q-42

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0108		COMP
% Solids	94.4	1.00	1.00	%	1	10/05/23 08:41	EPA 8000D	

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ANALYTICAL SAMPLE RESULTS

TCLP Extraction by EPA 1311 (ZHE)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Soils 10-02-2023-Composite (A3J0859-03)				Matrix: Soil		Batch: 23J0192		COMP
TCLP ZHE Extraction	PREP			N/A	1	10/05/23 15:37	EPA 1311 ZHE	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0476 - EPA 3546 (Fuels)						Soil						
Blank (23J0476-BLK1)						Prepared: 10/13/23 08:22 Analyzed: 10/13/23 20:26						
<u>NWTPH-Dx</u>												
Diesel	ND	10000	20000	ug/kg wet	1	---	---	---	---	---	---	
Oil	ND	20000	40000	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (23J0476-BS1)						Prepared: 10/13/23 08:22 Analyzed: 10/13/23 20:46						
<u>NWTPH-Dx</u>												
Diesel	99800	10000	20000	ug/kg wet	1	125000	---	80	38-132%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0476-DUP1)						Prepared: 10/13/23 08:22 Analyzed: 10/13/23 21:27						
<u>QC Source Sample: Non-SDG (A3J0834-14)</u>												
Diesel	ND	12600	25200	ug/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	25200	50400	ug/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
Duplicate (23J0476-DUP2)						Prepared: 10/13/23 18:19 Analyzed: 10/14/23 00:29						
<u>QC Source Sample: Non-SDG (A3J1255-05)</u>												
Diesel	ND	11100	22200	ug/kg dry	1	---	ND	---	---	---	30%	
Oil	ND	22200	44500	ug/kg dry	1	---	ND	---	---	---	30%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Blank (23J0101-BLK1)			Prepared: 10/04/23 09:00 Analyzed: 10/04/23 11:28									
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	2500	5000	ug/kg wet	50	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 99 %	Limits: 50-150 %			Dilution: 1x						
1,4-Difluorobenzene (Sur)		98 %	50-150 %			"						
LCS (23J0101-BS2)						Prepared: 10/04/23 09:00 Analyzed: 10/04/23 11:03						
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	24200	2500	5000	ug/kg wet	50	25000	---	97	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 98 %	Limits: 50-150 %			Dilution: 1x						
1,4-Difluorobenzene (Sur)		98 %	50-150 %			"						
Duplicate (23J0101-DUP1)						Prepared: 09/29/23 00:00 Analyzed: 10/04/23 12:19						
<u>QC Source Sample: Non-SDG (A3I1619-03)</u>												
Gasoline Range Organics	671000	13200	26400	ug/kg dry	200	---	643000	---	---	4	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 98 %	Limits: 50-150 %			Dilution: 1x						
1,4-Difluorobenzene (Sur)		97 %	50-150 %			"						
Duplicate (23J0101-DUP2)						Prepared: 09/25/23 14:00 Analyzed: 10/04/23 14:27						
<u>QC Source Sample: Non-SDG (A3J0813-01)</u>												
Gasoline Range Organics	1300000	5290	10600	ug/kg dry	100	---	1260000	---	---	3	30%	E
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 102 %	Limits: 50-150 %			Dilution: 1x						
1,4-Difluorobenzene (Sur)		100 %	50-150 %			"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Blank (23J0101-BLK1)			Prepared: 10/04/23 09:00 Analyzed: 10/04/23 11:28									
<u>5035A/8260D</u>												
Acetone	ND	500	1000	ug/kg wet	50	---	---	---	---	---	---	
Acrylonitrile	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	5.00	10.0	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	500	500	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Blank (23J0101-BLK1)			Prepared: 10/04/23 09:00 Analyzed: 10/04/23 11:28									
1,2-Dichloropropane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MIBK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	EST
1,2,3-Trichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 98 % Limits: 80-120 % Dilution: 1x

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Blank (23J0101-BLK1)						Prepared: 10/04/23 09:00 Analyzed: 10/04/23 11:28						
<i>Surr: Toluene-d8 (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>99 %</i>		<i>79-120 %</i>		<i>"</i>						

LCS (23J0101-BS1) Prepared: 10/04/23 09:00 Analyzed: 10/04/23 10:11

5035A/8260D

Acetone	2080	500	1000	ug/kg wet	50	2000	---	104	80-120%	---	---	
Acrylonitrile	1020	50.0	100	ug/kg wet	50	1000	---	102	80-120%	---	---	
Benzene	996	5.00	10.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Bromobenzene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Bromochloromethane	986	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
Bromodichloromethane	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Bromoform	982	50.0	100	ug/kg wet	50	1000	---	98	80-120%	---	---	
Bromomethane	998	500	500	ug/kg wet	50	1000	---	100	80-120%	---	---	
2-Butanone (MEK)	2070	250	500	ug/kg wet	50	2000	---	104	80-120%	---	---	
n-Butylbenzene	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
sec-Butylbenzene	1070	25.0	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
tert-Butylbenzene	994	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
Carbon disulfide	1000	250	500	ug/kg wet	50	1000	---	100	80-120%	---	---	
Carbon tetrachloride	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Chlorobenzene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Chloroethane	892	250	500	ug/kg wet	50	1000	---	89	80-120%	---	---	
Chloroform	1010	25.0	50.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Chloromethane	910	125	250	ug/kg wet	50	1000	---	91	80-120%	---	---	
2-Chlorotoluene	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
4-Chlorotoluene	1030	25.0	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Dibromochloromethane	1100	50.0	100	ug/kg wet	50	1000	---	110	80-120%	---	---	
1,2-Dibromo-3-chloropropane	1020	125	250	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,2-Dibromoethane (EDB)	1090	25.0	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
Dibromomethane	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,2-Dichlorobenzene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,3-Dichlorobenzene	1070	12.5	25.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
1,4-Dichlorobenzene	1020	12.5	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Dichlorodifluoromethane	964	50.0	100	ug/kg wet	50	1000	---	96	80-120%	---	---	
1,1-Dichloroethane	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
LCS (23J0101-BS1)			Prepared: 10/04/23 09:00 Analyzed: 10/04/23 10:11									
1,2-Dichloroethane (EDC)	1020	12.5	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,1-Dichloroethene	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
cis-1,2-Dichloroethene	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
trans-1,2-Dichloroethene	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,2-Dichloropropane	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
1,3-Dichloropropane	1030	25.0	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
2,2-Dichloropropane	1110	25.0	50.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
1,1-Dichloropropene	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
cis-1,3-Dichloropropene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
trans-1,3-Dichloropropene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Ethylbenzene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Hexachlorobutadiene	1060	50.0	100	ug/kg wet	50	1000	---	106	80-120%	---	---	
2-Hexanone	1930	250	500	ug/kg wet	50	2000	---	96	80-120%	---	---	
Isopropylbenzene	1090	25.0	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
4-Isopropyltoluene	1060	25.0	50.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Methylene chloride	1060	250	500	ug/kg wet	50	1000	---	106	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	1950	250	500	ug/kg wet	50	2000	---	98	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Naphthalene	1060	50.0	100	ug/kg wet	50	1000	---	106	80-120%	---	---	
n-Propylbenzene	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Styrene	1060	25.0	50.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1080	12.5	25.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
1,1,2,2-Tetrachloroethane	976	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Tetrachloroethene (PCE)	1080	12.5	25.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Toluene	982	25.0	50.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
1,2,3-Trichlorobenzene	1060	125	250	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,2,4-Trichlorobenzene	1050	125	250	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,1,1-Trichloroethane	1020	12.5	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,1,2-Trichloroethane	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Trichloroethene (TCE)	1080	12.5	25.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Trichlorofluoromethane	546	125	250	ug/kg wet	50	1000	---	55	80-120%	---	---	EST
1,2,3-Trichloropropane	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,2,4-Trimethylbenzene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
1,3,5-Trimethylbenzene	1090	25.0	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
LCS (23J0101-BS1)						Prepared: 10/04/23 09:00 Analyzed: 10/04/23 10:11						
Vinyl chloride	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
m,p-Xylene	2140	25.0	50.0	ug/kg wet	50	2000	---	107	80-120%	---	---	
o-Xylene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

Duplicate (23J0101-DUP1) Prepared: 09/29/23 00:00 Analyzed: 10/04/23 12:19

QC Source Sample: Non-SDG (A311619-03)

Acetone	ND	2640	5290	ug/kg dry	200	---	ND	---	---	---	30%	
Acrylonitrile	ND	264	529	ug/kg dry	200	---	ND	---	---	---	30%	
Benzene	ND	26.4	52.9	ug/kg dry	200	---	ND	---	---	---	30%	
Bromobenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Bromochloromethane	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Bromodichloromethane	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Bromoform	ND	264	529	ug/kg dry	200	---	ND	---	---	---	30%	
Bromomethane	ND	2640	2640	ug/kg dry	200	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
n-Butylbenzene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	529	529	ug/kg dry	200	---	ND	---	---	---	30%	
Carbon disulfide	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Chlorobenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Chloroethane	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
Chloroform	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Chloromethane	ND	661	1320	ug/kg dry	200	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	264	264	ug/kg dry	200	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Dibromochloromethane	ND	264	529	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	661	1320	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Dibromomethane	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	

R-02

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ANALYTICAL REPORT

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A							Soil					
Duplicate (23J0101-DUP1)			Prepared: 09/29/23 00:00 Analyzed: 10/04/23 12:19									
QC Source Sample: Non-SDG (A311619-03)												
1,3-Dichlorobenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	264	529	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Ethylbenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	264	529	ug/kg dry	200	---	ND	---	---	---	30%	
2-Hexanone	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
Isopropylbenzene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Methylene chloride	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MIBK)	ND	1320	2640	ug/kg dry	200	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Naphthalene	ND	1060	1060	ug/kg dry	200	---	ND	---	---	---	30%	R-02
n-Propylbenzene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Styrene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	1590	1590	ug/kg dry	200	---	ND	---	---	---	30%	R-02
Tetrachloroethene (PCE)	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Toluene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	661	1320	ug/kg dry	200	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	661	1320	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Duplicate (23J0101-DUP1)			Prepared: 09/29/23 00:00 Analyzed: 10/04/23 12:19									
QC Source Sample: Non-SDG (A3I1619-03)												
Trichloroethene (TCE)	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	661	1320	ug/kg dry	200	---	ND	---	---	---	30%	EST
1,2,3-Trichloropropane	ND	926	926	ug/kg dry	200	---	ND	---	---	---	30%	R-02
1,2,4-Trimethylbenzene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
Vinyl chloride	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
m,p-Xylene	ND	132	264	ug/kg dry	200	---	ND	---	---	---	30%	
o-Xylene	ND	66.1	132	ug/kg dry	200	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>79-120 %</i>		<i>"</i>						

Duplicate (23J0101-DUP2)											TEMP	
Prepared: 09/25/23 14:00 Analyzed: 10/04/23 14:27												
QC Source Sample: Non-SDG (A3J0813-01)												
Acetone	ND	1060	2110	ug/kg dry	100	---	ND	---	---	---	30%	
Acrylonitrile	ND	317	317	ug/kg dry	100	---	ND	---	---	---	30%	R-02
Benzene	97.3	10.6	21.1	ug/kg dry	100	---	94.1	---	---	3	30%	
Bromobenzene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
Bromochloromethane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
Bromodichloromethane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
Bromoform	ND	106	211	ug/kg dry	100	---	ND	---	---	---	30%	
Bromomethane	ND	1060	1060	ug/kg dry	100	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	2110	2110	ug/kg dry	100	---	ND	---	---	---	30%	R-02
n-Butylbenzene	3380	52.9	106	ug/kg dry	100	---	3260	---	---	4	30%	M-02
sec-Butylbenzene	1130	52.9	106	ug/kg dry	100	---	1070	---	---	6	30%	
tert-Butylbenzene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
Carbon disulfide	ND	529	1060	ug/kg dry	100	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
Chlorobenzene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
Chloroethane	ND	529	1060	ug/kg dry	100	---	ND	---	---	---	30%	
Chloroform	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
Chloromethane	ND	264	529	ug/kg dry	100	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0101 - EPA 5035A							Soil						
Duplicate (23J0101-DUP2)			Prepared: 09/25/23 14:00 Analyzed: 10/04/23 14:27						TEMP				
QC Source Sample: Non-SDG (A3J0813-01)													
4-Chlorotoluene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
Dibromochloromethane	ND	106	211	ug/kg dry	100	---	ND	---	---	---	30%		
1,2-Dibromo-3-chloropropane	ND	264	529	ug/kg dry	100	---	ND	---	---	---	30%		
1,2-Dibromoethane (EDB)	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
Dibromomethane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
1,2-Dichlorobenzene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,3-Dichlorobenzene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,4-Dichlorobenzene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
Dichlorodifluoromethane	ND	106	211	ug/kg dry	100	---	ND	---	---	---	30%		
1,1-Dichloroethane	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,2-Dichloroethane (EDC)	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,1-Dichloroethene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
cis-1,2-Dichloroethene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
trans-1,2-Dichloroethene	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,2-Dichloropropane	ND	52.9	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,3-Dichloropropane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
2,2-Dichloropropane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
1,1-Dichloropropene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
cis-1,3-Dichloropropene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
trans-1,3-Dichloropropene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
Ethylbenzene	8430	26.4	52.9	ug/kg dry	100	---	8250	---	---	2	30%		
Hexachlorobutadiene	ND	106	211	ug/kg dry	100	---	ND	---	---	---	30%		
2-Hexanone	ND	2640	2640	ug/kg dry	100	---	ND	---	---	---	30%	R-02	
Isopropylbenzene	1780	52.9	106	ug/kg dry	100	---	1740	---	---	3	30%		
4-Isopropyltoluene	457	52.9	106	ug/kg dry	100	---	450	---	---	1	30%	M-02	
Methylene chloride	ND	529	1060	ug/kg dry	100	---	ND	---	---	---	30%		
4-Methyl-2-pentanone (MIBK)	ND	4230	4230	ug/kg dry	100	---	ND	---	---	---	30%	R-02	
Methyl tert-butyl ether (MTBE)	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
Naphthalene	10700	106	211	ug/kg dry	100	---	10600	---	---	0.7	30%		
n-Propylbenzene	7400	26.4	52.9	ug/kg dry	100	---	7050	---	---	5	30%		
Styrene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%		
1,1,1,2-Tetrachloroethane	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%		
1,1,2,2-Tetrachloroethane	ND	211	211	ug/kg dry	100	---	ND	---	---	---	30%	R-02	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A												
Soil												
Duplicate (23J0101-DUP2)												
						Prepared: 09/25/23 14:00 Analyzed: 10/04/23 14:27						
QC Source Sample: Non-SDG (A3J0813-01)												
Tetrachloroethene (PCE)	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
Toluene	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	264	529	ug/kg dry	100	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	264	529	ug/kg dry	100	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	423	423	ug/kg dry	100	---	ND	---	---	---	30%	R-02
Trichloroethene (TCE)	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	264	529	ug/kg dry	100	---	ND	---	---	---	30%	EST
1,2,3-Trichloropropane	ND	52.9	106	ug/kg dry	100	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	43600	52.9	106	ug/kg dry	100	---	42300	---	---	3	30%	E
1,3,5-Trimethylbenzene	14200	52.9	106	ug/kg dry	100	---	13700	---	---	4	30%	
Vinyl chloride	ND	26.4	52.9	ug/kg dry	100	---	ND	---	---	---	30%	
m,p-Xylene	35900	52.9	106	ug/kg dry	100	---	35300	---	---	1	30%	
o-Xylene	728	26.4	52.9	ug/kg dry	100	---	722	---	---	0.9	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>79-120 %</i>		<i>"</i>						

Matrix Spike (23J0101-MS1)												
						Prepared: 10/02/23 13:40 Analyzed: 10/04/23 22:08						
QC Source Sample: Non-SDG (A3J0849-10)												
5035A/8260D												
Acetone	2770	747	1490	ug/kg dry	50	2990	ND	93	36-164%	---	---	
Acrylonitrile	1350	74.7	149	ug/kg dry	50	1490	ND	90	65-134%	---	---	
Benzene	1400	7.47	14.9	ug/kg dry	50	1490	ND	94	77-121%	---	---	
Bromobenzene	1440	18.7	37.3	ug/kg dry	50	1490	ND	96	78-121%	---	---	
Bromochloromethane	1370	37.3	74.7	ug/kg dry	50	1490	ND	92	78-125%	---	---	
Bromodichloromethane	1390	37.3	74.7	ug/kg dry	50	1490	ND	93	75-127%	---	---	
Bromoform	1300	74.7	149	ug/kg dry	50	1490	ND	87	67-132%	---	---	
Bromomethane	1390	747	747	ug/kg dry	50	1490	ND	93	53-143%	---	---	
2-Butanone (MEK)	2650	373	747	ug/kg dry	50	2990	ND	89	51-148%	---	---	
n-Butylbenzene	1430	37.3	74.7	ug/kg dry	50	1490	ND	96	70-128%	---	---	
sec-Butylbenzene	1490	37.3	74.7	ug/kg dry	50	1490	ND	100	73-126%	---	---	
tert-Butylbenzene	1390	37.3	74.7	ug/kg dry	50	1490	ND	93	73-125%	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Matrix Spike (23J0101-MS1)			Prepared: 10/02/23 13:40 Analyzed: 10/04/23 22:08									
QC Source Sample: Non-SDG (A3J0849-10)												
Carbon disulfide	1420	373	747	ug/kg dry	50	1490	ND	95	63-132%	---	---	
Carbon tetrachloride	1470	37.3	74.7	ug/kg dry	50	1490	ND	98	70-135%	---	---	
Chlorobenzene	1450	18.7	37.3	ug/kg dry	50	1490	ND	97	79-120%	---	---	
Chloroethane	1340	373	747	ug/kg dry	50	1490	ND	89	59-139%	---	---	
Chloroform	1410	37.3	74.7	ug/kg dry	50	1490	ND	94	78-123%	---	---	
Chloromethane	1310	187	373	ug/kg dry	50	1490	ND	88	50-136%	---	---	
2-Chlorotoluene	1440	37.3	74.7	ug/kg dry	50	1490	ND	96	75-122%	---	---	
4-Chlorotoluene	1410	37.3	74.7	ug/kg dry	50	1490	ND	95	72-124%	---	---	
Dibromochloromethane	1450	74.7	149	ug/kg dry	50	1490	ND	97	74-126%	---	---	
1,2-Dibromo-3-chloropropane	1260	187	373	ug/kg dry	50	1490	ND	84	61-132%	---	---	
1,2-Dibromoethane (EDB)	1460	37.3	74.7	ug/kg dry	50	1490	ND	97	78-122%	---	---	
Dibromomethane	1410	37.3	74.7	ug/kg dry	50	1490	ND	95	78-125%	---	---	
1,2-Dichlorobenzene	1430	18.7	37.3	ug/kg dry	50	1490	ND	96	78-121%	---	---	
1,3-Dichlorobenzene	1460	18.7	37.3	ug/kg dry	50	1490	ND	98	77-121%	---	---	
1,4-Dichlorobenzene	1400	18.7	37.3	ug/kg dry	50	1490	ND	94	75-120%	---	---	
Dichlorodifluoromethane	1460	74.7	149	ug/kg dry	50	1490	ND	97	29-149%	---	---	
1,1-Dichloroethane	1410	18.7	37.3	ug/kg dry	50	1490	ND	95	76-125%	---	---	
1,2-Dichloroethane (EDC)	1410	18.7	37.3	ug/kg dry	50	1490	ND	94	73-128%	---	---	
1,1-Dichloroethene	1480	18.7	37.3	ug/kg dry	50	1490	ND	99	70-131%	---	---	
cis-1,2-Dichloroethene	1430	18.7	37.3	ug/kg dry	50	1490	ND	96	77-123%	---	---	
trans-1,2-Dichloroethene	1430	18.7	37.3	ug/kg dry	50	1490	ND	96	74-125%	---	---	
1,2-Dichloropropane	1380	18.7	37.3	ug/kg dry	50	1490	ND	92	76-123%	---	---	
1,3-Dichloropropane	1390	37.3	74.7	ug/kg dry	50	1490	ND	93	77-121%	---	---	
2,2-Dichloropropane	1360	37.3	74.7	ug/kg dry	50	1490	ND	91	67-133%	---	---	
1,1-Dichloropropene	1440	37.3	74.7	ug/kg dry	50	1490	ND	97	76-125%	---	---	
cis-1,3-Dichloropropene	1400	37.3	74.7	ug/kg dry	50	1490	ND	93	74-126%	---	---	
trans-1,3-Dichloropropene	1400	37.3	74.7	ug/kg dry	50	1490	ND	94	71-130%	---	---	
Ethylbenzene	1460	18.7	37.3	ug/kg dry	50	1490	ND	98	76-122%	---	---	
Hexachlorobutadiene	1460	74.7	149	ug/kg dry	50	1490	ND	98	61-135%	---	---	
2-Hexanone	2570	373	747	ug/kg dry	50	2990	ND	86	53-145%	---	---	
Isopropylbenzene	1510	37.3	74.7	ug/kg dry	50	1490	ND	101	68-134%	---	---	
4-Isopropyltoluene	1470	37.3	74.7	ug/kg dry	50	1490	ND	98	73-127%	---	---	
Methylene chloride	1390	373	747	ug/kg dry	50	1490	ND	93	70-128%	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0101 - EPA 5035A						Soil						
Matrix Spike (23J0101-MS1)			Prepared: 10/02/23 13:40 Analyzed: 10/04/23 22:08									
QC Source Sample: Non-SDG (A3J0849-10)												
4-Methyl-2-pentanone (MiBK)	2700	373	747	ug/kg dry	50	2990	ND	90	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1360	37.3	74.7	ug/kg dry	50	1490	ND	91	73-125%	---	---	
Naphthalene	1370	74.7	149	ug/kg dry	50	1490	ND	92	62-129%	---	---	
n-Propylbenzene	1430	18.7	37.3	ug/kg dry	50	1490	ND	95	73-125%	---	---	
Styrene	1470	37.3	74.7	ug/kg dry	50	1490	ND	98	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1460	18.7	37.3	ug/kg dry	50	1490	ND	97	78-125%	---	---	
1,1,2,2-Tetrachloroethane	1300	37.3	74.7	ug/kg dry	50	1490	ND	87	70-124%	---	---	
Tetrachloroethene (PCE)	1510	18.7	37.3	ug/kg dry	50	1490	ND	101	73-128%	---	---	
Toluene	1370	37.3	74.7	ug/kg dry	50	1490	ND	92	77-121%	---	---	
1,2,3-Trichlorobenzene	1390	187	373	ug/kg dry	50	1490	ND	93	66-130%	---	---	
1,2,4-Trichlorobenzene	1390	187	373	ug/kg dry	50	1490	ND	93	67-129%	---	---	
1,1,1-Trichloroethane	1460	18.7	37.3	ug/kg dry	50	1490	ND	98	73-130%	---	---	
1,1,2-Trichloroethane	1400	18.7	37.3	ug/kg dry	50	1490	ND	94	78-121%	---	---	
Trichloroethene (TCE)	1530	18.7	37.3	ug/kg dry	50	1490	ND	103	77-123%	---	---	
Trichlorofluoromethane	7530	187	373	ug/kg dry	50	1490	ND	504	62-140%	---	---	EST
1,2,3-Trichloropropane	1400	37.3	74.7	ug/kg dry	50	1490	ND	94	73-125%	---	---	
1,2,4-Trimethylbenzene	1470	37.3	74.7	ug/kg dry	50	1490	ND	98	75-123%	---	---	
1,3,5-Trimethylbenzene	1500	37.3	74.7	ug/kg dry	50	1490	ND	101	73-124%	---	---	
Vinyl chloride	1560	18.7	37.3	ug/kg dry	50	1490	ND	105	56-135%	---	---	
m,p-Xylene	3000	37.3	74.7	ug/kg dry	50	2990	ND	100	77-124%	---	---	
o-Xylene	1450	18.7	37.3	ug/kg dry	50	1490	ND	97	77-123%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

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ANALYTICAL REPORT

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
Blank (23J0178-BLK1)			Prepared: 10/05/23 10:00 Analyzed: 10/05/23 15:29									
<u>5035A/8260D</u>												
Acetone	ND	500	1000	ug/kg wet	50	---	---	---	---	---	---	
Acrylonitrile	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Benzene	ND	5.00	10.0	ug/kg wet	50	---	---	---	---	---	---	
Bromobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Bromochloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromodichloromethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Bromoform	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
Bromomethane	ND	500	500	ug/kg wet	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
n-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Carbon disulfide	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Chloroethane	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Chloroform	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Chloromethane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromochloromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Dibromomethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
Blank (23J0178-BLK1)			Prepared: 10/05/23 10:00 Analyzed: 10/05/23 15:29									
1,2-Dichloropropane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
2,2-Dichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
2-Hexanone	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Methylene chloride	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	250	500	ug/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Naphthalene	ND	50.0	100	ug/kg wet	50	---	---	---	---	---	---	
n-Propylbenzene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Styrene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	125	250	ug/kg wet	50	---	---	---	---	---	---	EST
1,2,3-Trichloropropane	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	25.0	50.0	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	12.5	25.0	ug/kg wet	50	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) Recovery: 101 % Limits: 80-120 % Dilution: 1x

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
Blank (23J0178-BLK1)						Prepared: 10/05/23 10:00 Analyzed: 10/05/23 15:29						
<i>Surr: Toluene-d8 (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>79-120 %</i>		<i>"</i>						

LCS (23J0178-BS1) Prepared: 10/05/23 10:00 Analyzed: 10/05/23 13:20

5035A/8260D

Acetone	2220	500	1000	ug/kg wet	50	2000	---	111	80-120%	---	---	
Acrylonitrile	1010	50.0	100	ug/kg wet	50	1000	---	101	80-120%	---	---	
Benzene	1030	5.00	10.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Bromobenzene	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Bromochloromethane	1030	25.0	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
Bromodichloromethane	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Bromoform	974	50.0	100	ug/kg wet	50	1000	---	97	80-120%	---	---	
Bromomethane	1090	500	500	ug/kg wet	50	1000	---	109	80-120%	---	---	
2-Butanone (MEK)	2160	250	500	ug/kg wet	50	2000	---	108	80-120%	---	---	
n-Butylbenzene	1070	25.0	50.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
sec-Butylbenzene	1100	25.0	50.0	ug/kg wet	50	1000	---	110	80-120%	---	---	
tert-Butylbenzene	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Carbon disulfide	1030	250	500	ug/kg wet	50	1000	---	103	80-120%	---	---	
Carbon tetrachloride	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Chlorobenzene	1070	12.5	25.0	ug/kg wet	50	1000	---	107	80-120%	---	---	
Chloroethane	1060	250	500	ug/kg wet	50	1000	---	106	80-120%	---	---	
Chloroform	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Chloromethane	926	125	250	ug/kg wet	50	1000	---	93	80-120%	---	---	
2-Chlorotoluene	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
4-Chlorotoluene	1040	25.0	50.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
Dibromochloromethane	1110	50.0	100	ug/kg wet	50	1000	---	111	80-120%	---	---	
1,2-Dibromo-3-chloropropane	998	125	250	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,2-Dibromoethane (EDB)	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Dibromomethane	1090	25.0	50.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
1,2-Dichlorobenzene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,3-Dichlorobenzene	1100	12.5	25.0	ug/kg wet	50	1000	---	110	80-120%	---	---	
1,4-Dichlorobenzene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Dichlorodifluoromethane	1000	50.0	100	ug/kg wet	50	1000	---	100	80-120%	---	---	
1,1-Dichloroethane	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
LCS (23J0178-BS1)			Prepared: 10/05/23 10:00 Analyzed: 10/05/23 13:20									
1,2-Dichloroethane (EDC)	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,1-Dichloroethene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
cis-1,2-Dichloroethene	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
trans-1,2-Dichloroethene	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,2-Dichloropropane	1040	12.5	25.0	ug/kg wet	50	1000	---	104	80-120%	---	---	
1,3-Dichloropropane	1020	25.0	50.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
2,2-Dichloropropane	1140	25.0	50.0	ug/kg wet	50	1000	---	114	80-120%	---	---	
1,1-Dichloropropene	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
cis-1,3-Dichloropropene	1060	25.0	50.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
trans-1,3-Dichloropropene	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Ethylbenzene	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Hexachlorobutadiene	1040	50.0	100	ug/kg wet	50	1000	---	104	80-120%	---	---	
2-Hexanone	1890	250	500	ug/kg wet	50	2000	---	95	80-120%	---	---	
Isopropylbenzene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
4-Isopropyltoluene	1080	25.0	50.0	ug/kg wet	50	1000	---	108	80-120%	---	---	
Methylene chloride	1080	250	500	ug/kg wet	50	1000	---	108	80-120%	---	---	
4-Methyl-2-pentanone (MIBK)	1910	250	500	ug/kg wet	50	2000	---	96	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Naphthalene	990	50.0	100	ug/kg wet	50	1000	---	99	80-120%	---	---	
n-Propylbenzene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Styrene	1050	25.0	50.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1090	12.5	25.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
1,1,2,2-Tetrachloroethane	1000	25.0	50.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
Tetrachloroethene (PCE)	1090	12.5	25.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
Toluene	992	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
1,2,3-Trichlorobenzene	1020	125	250	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,2,4-Trichlorobenzene	1020	125	250	ug/kg wet	50	1000	---	102	80-120%	---	---	
1,1,1-Trichloroethane	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,1,2-Trichloroethane	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Trichloroethene (TCE)	1110	12.5	25.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
Trichlorofluoromethane	6120	125	250	ug/kg wet	50	1000	---	612	80-120%	---	---	EST
1,2,3-Trichloropropane	1030	25.0	50.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
1,2,4-Trimethylbenzene	1110	25.0	50.0	ug/kg wet	50	1000	---	111	80-120%	---	---	
1,3,5-Trimethylbenzene	1110	25.0	50.0	ug/kg wet	50	1000	---	111	80-120%	---	---	

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ANALYTICAL REPORT

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
LCS (23J0178-BS1)						Prepared: 10/05/23 10:00 Analyzed: 10/05/23 13:20						
Vinyl chloride	1090	12.5	25.0	ug/kg wet	50	1000	---	109	80-120%	---	---	
m,p-Xylene	2170	25.0	50.0	ug/kg wet	50	2000	---	108	80-120%	---	---	
o-Xylene	1030	12.5	25.0	ug/kg wet	50	1000	---	103	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>98 %</i>		<i>79-120 %</i>		<i>"</i>						

Duplicate (23J0178-DUP1)						Prepared: 10/03/23 00:00 Analyzed: 10/05/23 16:46						
QC Source Sample: Non-SDG (A3J0948-09)												
Acetone	ND	671	1340	ug/kg dry	50	---	ND	---	---	---	30%	
Acrylonitrile	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
Benzene	ND	6.71	13.4	ug/kg dry	50	---	ND	---	---	---	30%	
Bromobenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Bromoform	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
Bromomethane	ND	671	671	ug/kg dry	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon disulfide	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroethane	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
Chloroform	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Chloromethane	ND	168	335	ug/kg dry	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	168	335	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Dibromomethane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A							Soil					
Duplicate (23J0178-DUP1)			Prepared: 10/03/23 00:00 Analyzed: 10/05/23 16:46									
QC Source Sample: Non-SDG (A3J0948-09)												
1,3-Dichlorobenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
2-Hexanone	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Methylene chloride	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MIBK)	ND	335	671	ug/kg dry	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Naphthalene	ND	67.1	134	ug/kg dry	50	---	ND	---	---	---	30%	
n-Propylbenzene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Styrene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	168	335	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	168	335	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A												
Soil												
Duplicate (23J0178-DUP1)												
						Prepared: 10/03/23 00:00 Analyzed: 10/05/23 16:46						
QC Source Sample: Non-SDG (A3J0948-09)												
Trichloroethene (TCE)	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	168	335	ug/kg dry	50	---	ND	---	---	---	30%	EST
1,2,3-Trichloropropane	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	33.5	67.1	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	16.8	33.5	ug/kg dry	50	---	ND	---	---	---	30%	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>97 %</i>		<i>79-120 %</i>		<i>"</i>						

Matrix Spike (23J0178-MS1)												
						Prepared: 10/04/23 10:00 Analyzed: 10/06/23 00:00						
QC Source Sample: Non-SDG (A3J0928-01)												
5035A/8260D												
Acetone	3020	754	1510	ug/kg dry	50	3010	ND	100	36-164%	---	---	
Acrylonitrile	1540	75.4	151	ug/kg dry	50	1510	ND	102	65-134%	---	---	
Benzene	1610	7.54	15.1	ug/kg dry	50	1510	ND	107	77-121%	---	---	
Bromobenzene	1560	18.8	37.7	ug/kg dry	50	1510	ND	104	78-121%	---	---	
Bromochloromethane	1590	37.7	75.4	ug/kg dry	50	1510	ND	106	78-125%	---	---	
Bromodichloromethane	1620	37.7	75.4	ug/kg dry	50	1510	ND	107	75-127%	---	---	
Bromoform	1500	75.4	151	ug/kg dry	50	1510	ND	100	67-132%	---	---	
Bromomethane	1790	754	754	ug/kg dry	50	1510	ND	119	53-143%	---	---	
2-Butanone (MEK)	2810	377	754	ug/kg dry	50	3010	ND	93	51-148%	---	---	
n-Butylbenzene	1550	37.7	75.4	ug/kg dry	50	1510	ND	103	70-128%	---	---	
sec-Butylbenzene	1600	37.7	75.4	ug/kg dry	50	1510	ND	106	73-126%	---	---	
tert-Butylbenzene	1440	37.7	75.4	ug/kg dry	50	1510	ND	95	73-125%	---	---	
Carbon disulfide	1660	377	754	ug/kg dry	50	1510	ND	110	63-132%	---	---	
Carbon tetrachloride	1670	37.7	75.4	ug/kg dry	50	1510	ND	111	70-135%	---	---	
Chlorobenzene	1630	18.8	37.7	ug/kg dry	50	1510	ND	108	79-120%	---	---	
Chloroethane	1720	377	754	ug/kg dry	50	1510	ND	114	59-139%	---	---	
Chloroform	1620	37.7	75.4	ug/kg dry	50	1510	ND	107	78-123%	---	---	
Chloromethane	1460	188	377	ug/kg dry	50	1510	ND	97	50-136%	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
Matrix Spike (23J0178-MS1)						Prepared: 10/04/23 10:00 Analyzed: 10/06/23 00:00						
QC Source Sample: Non-SDG (A3J0928-01)												
2-Chlorotoluene	1560	37.7	75.4	ug/kg dry	50	1510	ND	104	75-122%	---	---	
4-Chlorotoluene	1520	37.7	75.4	ug/kg dry	50	1510	ND	101	72-124%	---	---	
Dibromochloromethane	1660	75.4	151	ug/kg dry	50	1510	ND	110	74-126%	---	---	
1,2-Dibromo-3-chloropropane	1410	188	377	ug/kg dry	50	1510	ND	93	61-132%	---	---	
1,2-Dibromoethane (EDB)	1610	37.7	75.4	ug/kg dry	50	1510	ND	107	78-122%	---	---	
Dibromomethane	1660	37.7	75.4	ug/kg dry	50	1510	ND	110	78-125%	---	---	
1,2-Dichlorobenzene	1580	18.8	37.7	ug/kg dry	50	1510	ND	105	78-121%	---	---	
1,3-Dichlorobenzene	1630	18.8	37.7	ug/kg dry	50	1510	ND	108	77-121%	---	---	
1,4-Dichlorobenzene	1560	18.8	37.7	ug/kg dry	50	1510	ND	103	75-120%	---	---	
Dichlorodifluoromethane	1600	75.4	151	ug/kg dry	50	1510	ND	106	29-149%	---	---	
1,1-Dichloroethane	1620	18.8	37.7	ug/kg dry	50	1510	ND	107	76-125%	---	---	
1,2-Dichloroethane (EDC)	1590	18.8	37.7	ug/kg dry	50	1510	ND	106	73-128%	---	---	
1,1-Dichloroethene	1640	18.8	37.7	ug/kg dry	50	1510	ND	109	70-131%	---	---	
cis-1,2-Dichloroethene	1590	18.8	37.7	ug/kg dry	50	1510	ND	105	77-123%	---	---	
trans-1,2-Dichloroethene	1620	18.8	37.7	ug/kg dry	50	1510	ND	108	74-125%	---	---	
1,2-Dichloropropane	1570	18.8	37.7	ug/kg dry	50	1510	ND	104	76-123%	---	---	
1,3-Dichloropropane	1530	37.7	75.4	ug/kg dry	50	1510	ND	101	77-121%	---	---	
2,2-Dichloropropane	1580	37.7	75.4	ug/kg dry	50	1510	ND	105	67-133%	---	---	
1,1-Dichloropropene	1610	37.7	75.4	ug/kg dry	50	1510	ND	107	76-125%	---	---	
cis-1,3-Dichloropropene	1540	37.7	75.4	ug/kg dry	50	1510	ND	102	74-126%	---	---	
trans-1,3-Dichloropropene	1540	37.7	75.4	ug/kg dry	50	1510	ND	102	71-130%	---	---	
Ethylbenzene	1590	18.8	37.7	ug/kg dry	50	1510	ND	106	76-122%	---	---	
Hexachlorobutadiene	1570	75.4	151	ug/kg dry	50	1510	ND	104	61-135%	---	---	
2-Hexanone	2530	377	754	ug/kg dry	50	3010	ND	84	53-145%	---	---	
Isopropylbenzene	1590	37.7	75.4	ug/kg dry	50	1510	ND	105	68-134%	---	---	
4-Isopropyltoluene	1590	37.7	75.4	ug/kg dry	50	1510	ND	105	73-127%	---	---	
Methylene chloride	1570	377	754	ug/kg dry	50	1510	ND	104	70-128%	---	---	
4-Methyl-2-pentanone (MIBK)	2790	377	754	ug/kg dry	50	3010	ND	92	65-135%	---	---	
Methyl tert-butyl ether (MTBE)	1500	37.7	75.4	ug/kg dry	50	1510	ND	99	73-125%	---	---	
Naphthalene	1360	75.4	151	ug/kg dry	50	1510	ND	90	62-129%	---	---	
n-Propylbenzene	1530	18.8	37.7	ug/kg dry	50	1510	ND	102	73-125%	---	---	
Styrene	1590	37.7	75.4	ug/kg dry	50	1510	ND	105	76-124%	---	---	
1,1,1,2-Tetrachloroethane	1650	18.8	37.7	ug/kg dry	50	1510	ND	109	78-125%	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0178 - EPA 5035A						Soil						
Matrix Spike (23J0178-MS1)						Prepared: 10/04/23 10:00 Analyzed: 10/06/23 00:00						
QC Source Sample: Non-SDG (A3J0928-01)												
1,1,2,2-Tetrachloroethane	1500	37.7	75.4	ug/kg dry	50	1510	ND	100	70-124%	---	---	
Tetrachloroethene (PCE)	1680	18.8	37.7	ug/kg dry	50	1510	ND	111	73-128%	---	---	
Toluene	1520	37.7	75.4	ug/kg dry	50	1510	ND	101	77-121%	---	---	
1,2,3-Trichlorobenzene	1480	188	377	ug/kg dry	50	1510	ND	98	66-130%	---	---	
1,2,4-Trichlorobenzene	1430	188	377	ug/kg dry	50	1510	ND	95	67-129%	---	---	
1,1,1-Trichloroethane	1670	18.8	37.7	ug/kg dry	50	1510	ND	110	73-130%	---	---	
1,1,2-Trichloroethane	1580	18.8	37.7	ug/kg dry	50	1510	ND	105	78-121%	---	---	
Trichloroethene (TCE)	1750	18.8	37.7	ug/kg dry	50	1510	ND	116	77-123%	---	---	
Trichlorofluoromethane	ND	188	377	ug/kg dry	50	1510	ND		62-140%	---	---	EST
1,2,3-Trichloropropane	1570	37.7	75.4	ug/kg dry	50	1510	ND	104	73-125%	---	---	
1,2,4-Trimethylbenzene	1620	37.7	75.4	ug/kg dry	50	1510	ND	107	75-123%	---	---	
1,3,5-Trimethylbenzene	1640	37.7	75.4	ug/kg dry	50	1510	ND	109	73-124%	---	---	
Vinyl chloride	1770	18.8	37.7	ug/kg dry	50	1510	ND	118	56-135%	---	---	
m,p-Xylene	3220	37.7	75.4	ug/kg dry	50	3010	ND	107	77-124%	---	---	
o-Xylene	1510	18.8	37.7	ug/kg dry	50	1510	ND	100	77-123%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>79-120 %</i>		<i>"</i>						

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Blank (23J0304-BLK1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 04:37						TCLPb
<u>1311/8260D</u>												
Acetone	ND	500	1000	ug/L	50	---	---	---	---	---	---	
Benzene	ND	6.25	12.5	ug/L	50	---	---	---	---	---	---	
Bromobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Bromochloromethane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Bromodichloromethane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Bromoform	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Bromomethane	ND	250	250	ug/L	50	---	---	---	---	---	---	
2-Butanone (MEK)	ND	250	500	ug/L	50	---	---	---	---	---	---	
n-Butylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
sec-Butylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
tert-Butylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Chlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Chloroethane	ND	250	250	ug/L	50	---	---	---	---	---	---	
Chloroform	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Chloromethane	ND	125	250	ug/L	50	---	---	---	---	---	---	
2-Chlorotoluene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
4-Chlorotoluene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/L	50	---	---	---	---	---	---	
Dibromochloromethane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Dibromomethane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,1-Dichloroethane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,2-Dichloropropane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,3-Dichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Blank (23J0304-BLK1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 04:37						TCLPb
2,2-Dichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,1-Dichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
cis-1,3-Dichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
trans-1,3-Dichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Ethylbenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Hexachlorobutadiene	ND	125	250	ug/L	50	---	---	---	---	---	---	
2-Hexanone	ND	250	500	ug/L	50	---	---	---	---	---	---	
Isopropylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
4-Isopropyltoluene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
4-Methyl-2-pentanone (MIBK)	ND	250	500	ug/L	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Methylene chloride	ND	250	500	ug/L	50	---	---	---	---	---	---	
n-Propylbenzene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Styrene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Naphthalene	ND	50.0	100	ug/L	50	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Toluene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	50.0	100	ug/L	50	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
Trichlorofluoromethane	ND	50.0	100	ug/L	50	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
Vinyl chloride	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
m,p-Xylene	ND	25.0	50.0	ug/L	50	---	---	---	---	---	---	
o-Xylene	ND	12.5	25.0	ug/L	50	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
LCS (23J0304-BS1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 03:17						TCLPb
1311/8260D												
Acetone	1710	500	1000	ug/L	50	2000	---	85	80-120%	---	---	
Benzene	1060	6.25	12.5	ug/L	50	1000	---	106	80-120%	---	---	
Bromobenzene	918	12.5	25.0	ug/L	50	1000	---	92	80-120%	---	---	
Bromochloromethane	1030	25.0	50.0	ug/L	50	1000	---	103	80-120%	---	---	
Bromodichloromethane	1160	25.0	50.0	ug/L	50	1000	---	116	80-120%	---	---	
Bromoform	989	25.0	50.0	ug/L	50	1000	---	99	80-120%	---	---	
Bromomethane	1120	250	250	ug/L	50	1000	---	112	80-120%	---	---	
2-Butanone (MEK)	1900	250	500	ug/L	50	2000	---	95	80-120%	---	---	
n-Butylbenzene	989	25.0	50.0	ug/L	50	1000	---	99	80-120%	---	---	
sec-Butylbenzene	985	25.0	50.0	ug/L	50	1000	---	98	80-120%	---	---	
tert-Butylbenzene	1020	25.0	50.0	ug/L	50	1000	---	102	80-120%	---	---	
Carbon tetrachloride	1220	25.0	50.0	ug/L	50	1000	---	122	80-120%	---	---	Q-56
Chlorobenzene	972	12.5	25.0	ug/L	50	1000	---	97	80-120%	---	---	
Chloroethane	1370	250	250	ug/L	50	1000	---	137	80-120%	---	---	Q-56
Chloroform	1060	25.0	50.0	ug/L	50	1000	---	106	80-120%	---	---	
Chloromethane	974	125	250	ug/L	50	1000	---	97	80-120%	---	---	
2-Chlorotoluene	984	25.0	50.0	ug/L	50	1000	---	98	80-120%	---	---	
4-Chlorotoluene	1050	25.0	50.0	ug/L	50	1000	---	105	80-120%	---	---	
1,2-Dibromo-3-chloropropane	882	125	250	ug/L	50	1000	---	88	80-120%	---	---	
Dibromochloromethane	980	25.0	50.0	ug/L	50	1000	---	98	80-120%	---	---	
1,2-Dibromoethane (EDB)	1040	12.5	25.0	ug/L	50	1000	---	104	80-120%	---	---	
Dibromomethane	1020	25.0	50.0	ug/L	50	1000	---	102	80-120%	---	---	
1,2-Dichlorobenzene	952	12.5	25.0	ug/L	50	1000	---	95	80-120%	---	---	
1,3-Dichlorobenzene	992	12.5	25.0	ug/L	50	1000	---	99	80-120%	---	---	
1,4-Dichlorobenzene	891	12.5	25.0	ug/L	50	1000	---	89	80-120%	---	---	
Dichlorodifluoromethane	1020	25.0	50.0	ug/L	50	1000	---	102	80-120%	---	---	
1,1-Dichloroethane	1080	12.5	25.0	ug/L	50	1000	---	108	80-120%	---	---	
1,1-Dichloroethene	1140	12.5	25.0	ug/L	50	1000	---	114	80-120%	---	---	
1,2-Dichloroethane (EDC)	1070	12.5	25.0	ug/L	50	1000	---	107	80-120%	---	---	
cis-1,2-Dichloroethene	1020	25.0	50.0	ug/L	50	1000	---	102	80-120%	---	---	
trans-1,2-Dichloroethene	982	12.5	25.0	ug/L	50	1000	---	98	80-120%	---	---	
1,2-Dichloropropane	1020	12.5	25.0	ug/L	50	1000	---	102	80-120%	---	---	
1,3-Dichloropropane	1080	25.0	50.0	ug/L	50	1000	---	108	80-120%	---	---	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
LCS (23J0304-BS1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 03:17						TCLPb
2,2-Dichloropropane	1020	25.0	50.0	ug/L	50	1000	---	102	80-120%	---	---	
1,1-Dichloropropene	1090	25.0	50.0	ug/L	50	1000	---	109	80-120%	---	---	
cis-1,3-Dichloropropene	972	25.0	50.0	ug/L	50	1000	---	97	80-120%	---	---	
trans-1,3-Dichloropropene	1040	25.0	50.0	ug/L	50	1000	---	104	80-120%	---	---	
Ethylbenzene	1020	12.5	25.0	ug/L	50	1000	---	102	80-120%	---	---	
Hexachlorobutadiene	800	125	250	ug/L	50	1000	---	80	80-120%	---	---	
2-Hexanone	1720	250	500	ug/L	50	2000	---	86	80-120%	---	---	
Isopropylbenzene	923	25.0	50.0	ug/L	50	1000	---	92	80-120%	---	---	
4-Isopropyltoluene	898	25.0	50.0	ug/L	50	1000	---	90	80-120%	---	---	
4-Methyl-2-pentanone (MIBK)	1910	250	500	ug/L	50	2000	---	96	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	1140	25.0	50.0	ug/L	50	1000	---	114	80-120%	---	---	
Methylene chloride	1060	250	500	ug/L	50	1000	---	106	80-120%	---	---	
n-Propylbenzene	1010	12.5	25.0	ug/L	50	1000	---	101	80-120%	---	---	
Styrene	936	25.0	50.0	ug/L	50	1000	---	94	80-120%	---	---	
Naphthalene	834	50.0	100	ug/L	50	1000	---	83	80-120%	---	---	
1,1,1,2-Tetrachloroethane	1140	12.5	25.0	ug/L	50	1000	---	114	80-120%	---	---	
1,1,2,2-Tetrachloroethane	1070	12.5	25.0	ug/L	50	1000	---	107	80-120%	---	---	
Tetrachloroethene (PCE)	946	12.5	25.0	ug/L	50	1000	---	95	80-120%	---	---	
Toluene	940	25.0	50.0	ug/L	50	1000	---	94	80-120%	---	---	
1,2,3-Trichlorobenzene	933	25.0	50.0	ug/L	50	1000	---	93	80-120%	---	---	
1,2,4-Trichlorobenzene	820	50.0	100	ug/L	50	1000	---	82	80-120%	---	---	
1,1,1-Trichloroethane	1170	12.5	25.0	ug/L	50	1000	---	117	80-120%	---	---	
1,1,2-Trichloroethane	1040	12.5	25.0	ug/L	50	1000	---	104	80-120%	---	---	
Trichloroethene (TCE)	935	12.5	25.0	ug/L	50	1000	---	94	80-120%	---	---	
Trichlorofluoromethane	1360	50.0	100	ug/L	50	1000	---	136	80-120%	---	---	Q-56
1,2,3-Trichloropropane	1080	25.0	50.0	ug/L	50	1000	---	108	80-120%	---	---	
1,2,4-Trimethylbenzene	1100	25.0	50.0	ug/L	50	1000	---	110	80-120%	---	---	
1,3,5-Trimethylbenzene	1090	25.0	50.0	ug/L	50	1000	---	109	80-120%	---	---	
Vinyl chloride	1060	12.5	25.0	ug/L	50	1000	---	106	80-120%	---	---	
m,p-Xylene	1990	25.0	50.0	ug/L	50	2000	---	99	80-120%	---	---	
o-Xylene	917	12.5	25.0	ug/L	50	1000	---	92	80-120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>92 %</i>		<i>80-120 %</i>		<i>"</i>						

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Duplicate (23J0304-DUP1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:09						COMP
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1311/8260D												
Acetone	ND	500	1000	ug/L	50	---	ND	---	---	---	30%	
Benzene	ND	6.25	12.5	ug/L	50	---	ND	---	---	---	30%	
Bromobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Bromochloromethane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Bromodichloromethane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Bromoform	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Bromomethane	ND	250	250	ug/L	50	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	250	500	ug/L	50	---	ND	---	---	---	30%	
n-Butylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Chloroethane	ND	250	250	ug/L	50	---	ND	---	---	---	30%	
Chloroform	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Chloromethane	ND	125	250	ug/L	50	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	125	250	ug/L	50	---	ND	---	---	---	30%	
Dibromochloromethane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Dibromomethane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Duplicate (23J0304-DUP1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:09						COMP
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1,2-Dichloropropane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	125	250	ug/L	50	---	ND	---	---	---	30%	
2-Hexanone	ND	250	500	ug/L	50	---	ND	---	---	---	30%	
Isopropylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	250	500	ug/L	50	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Methylene chloride	ND	1000	1000	ug/L	50	---	ND	---	---	---	30%	A-01
n-Propylbenzene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Styrene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Naphthalene	ND	50.0	100	ug/L	50	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Toluene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	50.0	100	ug/L	50	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	50.0	100	ug/L	50	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	25.0	50.0	ug/L	50	---	ND	---	---	---	30%	
o-Xylene	ND	12.5	25.0	ug/L	50	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Duplicate (23J0304-DUP1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:09						COMP
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery:</i>		<i>105 %</i>	<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>					
<i>Toluene-d8 (Surr)</i>				<i>103 %</i>	<i>80-120 %</i>		<i>"</i>					
<i>4-Bromofluorobenzene (Surr)</i>				<i>94 %</i>	<i>80-120 %</i>		<i>"</i>					

Matrix Spike (23J0304-MS1) Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:59 **COMP**

QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)

1311/8260D

Acetone	1790	500	1000	ug/L	50	2000	ND	89	39-160%	---	---	
Benzene	1140	6.25	12.5	ug/L	50	1000	ND	114	79-120%	---	---	
Bromobenzene	996	12.5	25.0	ug/L	50	1000	ND	100	80-120%	---	---	
Bromochloromethane	1090	25.0	50.0	ug/L	50	1000	ND	109	78-123%	---	---	
Bromodichloromethane	1240	25.0	50.0	ug/L	50	1000	ND	124	79-125%	---	---	
Bromoforn	1030	25.0	50.0	ug/L	50	1000	ND	103	66-130%	---	---	
Bromomethane	1260	250	250	ug/L	50	1000	ND	126	53-141%	---	---	
2-Butanone (MEK)	1930	250	500	ug/L	50	2000	ND	96	56-143%	---	---	
n-Butylbenzene	1040	25.0	50.0	ug/L	50	1000	ND	104	75-128%	---	---	
sec-Butylbenzene	1050	25.0	50.0	ug/L	50	1000	ND	105	77-126%	---	---	
tert-Butylbenzene	1120	25.0	50.0	ug/L	50	1000	ND	112	78-124%	---	---	
Carbon tetrachloride	1350	25.0	50.0	ug/L	50	1000	ND	135	72-136%	---	---	Q-54b
Chlorobenzene	1040	12.5	25.0	ug/L	50	1000	ND	104	80-120%	---	---	
Chloroethane	1610	250	250	ug/L	50	1000	ND	161	60-138%	---	---	Q-54a
Chloroform	1140	25.0	50.0	ug/L	50	1000	ND	114	79-124%	---	---	
Chloromethane	1040	125	250	ug/L	50	1000	ND	104	50-139%	---	---	
2-Chlorotoluene	1070	25.0	50.0	ug/L	50	1000	ND	107	79-122%	---	---	
4-Chlorotoluene	1120	25.0	50.0	ug/L	50	1000	ND	112	78-122%	---	---	
1,2-Dibromo-3-chloropropane	934	125	250	ug/L	50	1000	ND	93	62-128%	---	---	
Dibromochloromethane	1040	25.0	50.0	ug/L	50	1000	ND	104	74-126%	---	---	
1,2-Dibromoethane (EDB)	1090	12.5	25.0	ug/L	50	1000	ND	109	77-121%	---	---	
Dibromomethane	1060	25.0	50.0	ug/L	50	1000	ND	106	79-123%	---	---	
1,2-Dichlorobenzene	1030	12.5	25.0	ug/L	50	1000	ND	103	80-120%	---	---	
1,3-Dichlorobenzene	1060	12.5	25.0	ug/L	50	1000	ND	106	80-120%	---	---	
1,4-Dichlorobenzene	933	12.5	25.0	ug/L	50	1000	ND	93	79-120%	---	---	
Dichlorodifluoromethane	1020	25.0	50.0	ug/L	50	1000	ND	102	32-152%	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc.	Project: Gasco - Soil Residuals	
2749 Lockport Road	Project Number: 111323	Report ID:
Niagara Falls, NY 14305	Project Manager: Chip Byrd	A3J0859 - 10 18 23 1025

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Matrix Spike (23J0304-MS1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:59						COMP
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1,1-Dichloroethane	1160	12.5	25.0	ug/L	50	1000	ND	116	77-125%	---	---	
1,1-Dichloroethene	1230	12.5	25.0	ug/L	50	1000	ND	123	71-131%	---	---	
1,2-Dichloroethane (EDC)	1130	12.5	25.0	ug/L	50	1000	ND	113	73-128%	---	---	
cis-1,2-Dichloroethene	1090	25.0	50.0	ug/L	50	1000	ND	109	78-123%	---	---	
trans-1,2-Dichloroethene	1060	12.5	25.0	ug/L	50	1000	ND	106	75-124%	---	---	
1,2-Dichloropropane	1080	12.5	25.0	ug/L	50	1000	ND	108	78-122%	---	---	
1,3-Dichloropropane	1150	25.0	50.0	ug/L	50	1000	ND	115	80-120%	---	---	
2,2-Dichloropropane	992	25.0	50.0	ug/L	50	1000	ND	99	60-139%	---	---	
1,1-Dichloropropene	1180	25.0	50.0	ug/L	50	1000	ND	118	79-125%	---	---	
cis-1,3-Dichloropropene	1030	25.0	50.0	ug/L	50	1000	ND	103	75-124%	---	---	
trans-1,3-Dichloropropene	1100	25.0	50.0	ug/L	50	1000	ND	110	73-127%	---	---	
Ethylbenzene	1100	12.5	25.0	ug/L	50	1000	ND	110	79-121%	---	---	
Hexachlorobutadiene	800	125	250	ug/L	50	1000	ND	80	66-134%	---	---	
2-Hexanone	1810	250	500	ug/L	50	2000	ND	90	57-139%	---	---	
Isopropylbenzene	988	25.0	50.0	ug/L	50	1000	ND	99	72-131%	---	---	
4-Isopropyltoluene	954	25.0	50.0	ug/L	50	1000	ND	95	77-127%	---	---	
4-Methyl-2-pentanone (MiBK)	2020	250	500	ug/L	50	2000	ND	101	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	1190	25.0	50.0	ug/L	50	1000	ND	119	71-124%	---	---	
Methylene chloride	1640	250	500	ug/L	50	1000	ND	99	74-124%	---	---	
n-Propylbenzene	1080	12.5	25.0	ug/L	50	1000	ND	108	76-126%	---	---	
Styrene	984	25.0	50.0	ug/L	50	1000	ND	98	78-123%	---	---	
Naphthalene	850	50.0	100	ug/L	50	1000	ND	85	61-128%	---	---	
1,1,1,2-Tetrachloroethane	1210	12.5	25.0	ug/L	50	1000	ND	121	78-124%	---	---	
1,1,2,2-Tetrachloroethane	1160	12.5	25.0	ug/L	50	1000	ND	116	71-121%	---	---	
Tetrachloroethene (PCE)	992	12.5	25.0	ug/L	50	1000	ND	99	74-129%	---	---	
Toluene	1020	25.0	50.0	ug/L	50	1000	ND	102	80-121%	---	---	
1,2,3-Trichlorobenzene	961	25.0	50.0	ug/L	50	1000	ND	96	69-129%	---	---	
1,2,4-Trichlorobenzene	824	50.0	100	ug/L	50	1000	ND	82	69-130%	---	---	
1,1,1-Trichloroethane	1290	12.5	25.0	ug/L	50	1000	ND	129	74-131%	---	---	
1,1,2-Trichloroethane	1080	12.5	25.0	ug/L	50	1000	ND	108	80-120%	---	---	
Trichloroethene (TCE)	996	12.5	25.0	ug/L	50	1000	ND	100	79-123%	---	---	
Trichlorofluoromethane	1470	50.0	100	ug/L	50	1000	ND	147	65-141%	---	---	Q-54
1,2,3-Trichloropropane	1140	25.0	50.0	ug/L	50	1000	ND	114	73-122%	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Volatile Organic Compounds by EPA 1311/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0304 - EPA 1311/5030C TCLP Volatiles						Water						
Matrix Spike (23J0304-MS1)						Prepared: 10/09/23 16:12 Analyzed: 10/10/23 06:59						COMP
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1,2,4-Trimethylbenzene	1180	25.0	50.0	ug/L	50	1000	ND	118	76-124%	---	---	
1,3,5-Trimethylbenzene	1170	25.0	50.0	ug/L	50	1000	ND	117	75-124%	---	---	
Vinyl chloride	1150	12.5	25.0	ug/L	50	1000	ND	115	58-137%	---	---	
m,p-Xylene	2130	25.0	50.0	ug/L	50	2000	ND	106	80-121%	---	---	
o-Xylene	980	12.5	25.0	ug/L	50	1000	ND	98	78-122%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>93 %</i>		<i>80-120 %</i>		<i>"</i>						

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0380 - EPA 3546						Soil						
Blank (23J0380-BLK2)			Prepared: 10/11/23 10:19 Analyzed: 10/11/23 18:58									
EPA 8270E												
Acenaphthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	2.00	4.00	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.67	5.33	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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 503-718-2323
 ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0380 - EPA 3546						Soil						
Blank (23J0380-BLK2)			Prepared: 10/11/23 10:19 Analyzed: 10/11/23 18:58									
2,3,5,6-Tetrachlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	20.0	40.0	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.33	2.67	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	13.3	26.7	ug/kg wet	1	---	---	---	---	---	---	
Benzoic acid	ND	167	333	ug/kg wet	1	---	---	---	---	---	---	
Benzyl alcohol	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0380 - EPA 3546						Soil						
Blank (23J0380-BLK2)			Prepared: 10/11/23 10:19			Analyzed: 10/11/23 18:58						
Azobenzene (1,2-DPH)	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	26.7	53.3	ug/kg wet	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	33.3	66.7	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.67	13.3	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.33	6.67	ug/kg wet	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>83 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>98 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>89 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>83 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>80 %</i>		<i>39-132 %</i>		<i>"</i>						
LCS (23J0380-BS2)						Prepared: 10/11/23 10:19 Analyzed: 10/11/23 19:35						Q-18
EPA 8270E												
Acenaphthene	517	5.32	10.7	ug/kg wet	4	533	---	97	40-123%	---	---	
Acenaphthylene	538	5.32	10.7	ug/kg wet	4	533	---	101	32-132%	---	---	
Anthracene	521	5.32	10.7	ug/kg wet	4	533	---	98	47-123%	---	---	
Benz(a)anthracene	501	5.32	10.7	ug/kg wet	4	533	---	94	49-126%	---	---	
Benzo(a)pyrene	561	8.00	16.0	ug/kg wet	4	533	---	105	45-129%	---	---	
Benzo(b)fluoranthene	534	8.00	16.0	ug/kg wet	4	533	---	100	45-132%	---	---	
Benzo(k)fluoranthene	566	8.00	16.0	ug/kg wet	4	533	---	106	47-132%	---	---	
Benzo(g,h,i)perylene	518	5.32	10.7	ug/kg wet	4	533	---	97	43-134%	---	---	
Chrysene	511	5.32	10.7	ug/kg wet	4	533	---	96	50-124%	---	---	
Dibenz(a,h)anthracene	514	5.32	10.7	ug/kg wet	4	533	---	96	45-134%	---	---	
Fluoranthene	529	5.32	10.7	ug/kg wet	4	533	---	99	50-127%	---	---	
Fluorene	523	5.32	10.7	ug/kg wet	4	533	---	98	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	487	5.32	10.7	ug/kg wet	4	533	---	91	45-133%	---	---	
1-Methylnaphthalene	549	10.7	21.3	ug/kg wet	4	533	---	103	40-120%	---	---	
2-Methylnaphthalene	544	10.7	21.3	ug/kg wet	4	533	---	102	38-122%	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0380 - EPA 3546						Soil						
LCS (23J0380-BS2)						Prepared: 10/11/23 10:19 Analyzed: 10/11/23 19:35						Q-18
Naphthalene	516	10.7	21.3	ug/kg wet	4	533	---	97	35-123%	---	---	
Phenanthrene	504	5.32	10.7	ug/kg wet	4	533	---	94	50-121%	---	---	
Pyrene	525	5.32	10.7	ug/kg wet	4	533	---	98	47-127%	---	---	
Carbazole	783	8.00	16.0	ug/kg wet	4	533	---	147	50-123%	---	---	Q-29, Q-41
Dibenzofuran	511	5.32	10.7	ug/kg wet	4	533	---	96	44-120%	---	---	
2-Chlorophenol	538	26.7	53.2	ug/kg wet	4	533	---	101	34-121%	---	---	
4-Chloro-3-methylphenol	592	53.2	107	ug/kg wet	4	533	---	111	45-122%	---	---	
2,4-Dichlorophenol	579	26.7	53.2	ug/kg wet	4	533	---	109	40-122%	---	---	
2,4-Dimethylphenol	637	26.7	53.2	ug/kg wet	4	533	---	119	30-127%	---	---	Q-41
2,4-Dinitrophenol	434	133	267	ug/kg wet	4	533	---	81	10-137%	---	---	
4,6-Dinitro-2-methylphenol	506	133	267	ug/kg wet	4	533	---	95	29-132%	---	---	
2-Methylphenol	628	13.3	26.7	ug/kg wet	4	533	---	118	32-122%	---	---	
3+4-Methylphenol(s)	680	13.3	26.7	ug/kg wet	4	533	---	127	34-120%	---	---	Q-29
2-Nitrophenol	606	53.2	107	ug/kg wet	4	533	---	114	36-123%	---	---	
4-Nitrophenol	498	53.2	107	ug/kg wet	4	533	---	93	30-132%	---	---	
Pentachlorophenol (PCP)	410	53.2	107	ug/kg wet	4	533	---	77	25-133%	---	---	
Phenol	623	10.7	21.3	ug/kg wet	4	533	---	117	34-121%	---	---	
2,3,4,6-Tetrachlorophenol	505	26.7	53.2	ug/kg wet	4	533	---	95	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	513	26.7	53.2	ug/kg wet	4	533	---	96	40-120%	---	---	
2,4,5-Trichlorophenol	515	26.7	53.2	ug/kg wet	4	533	---	97	41-124%	---	---	
2,4,6-Trichlorophenol	509	26.7	53.2	ug/kg wet	4	533	---	95	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	521	80.0	160	ug/kg wet	4	533	---	98	51-133%	---	---	
Butyl benzyl phthalate	524	53.2	107	ug/kg wet	4	533	---	98	48-132%	---	---	
Diethylphthalate	548	53.2	107	ug/kg wet	4	533	---	103	50-124%	---	---	
Dimethylphthalate	514	53.2	107	ug/kg wet	4	533	---	96	48-124%	---	---	
Di-n-butylphthalate	540	53.2	107	ug/kg wet	4	533	---	101	51-128%	---	---	
Di-n-octyl phthalate	528	53.2	107	ug/kg wet	4	533	---	99	45-140%	---	---	
N-Nitrosodimethylamine	503	13.3	26.7	ug/kg wet	4	533	---	94	23-120%	---	---	
N-Nitroso-di-n-propylamine	679	13.3	26.7	ug/kg wet	4	533	---	127	36-120%	---	---	Q-29, Q-41
N-Nitrosodiphenylamine	536	13.3	26.7	ug/kg wet	4	533	---	100	38-127%	---	---	
Bis(2-Chloroethoxy) methane	568	13.3	26.7	ug/kg wet	4	533	---	107	36-121%	---	---	
Bis(2-Chloroethyl) ether	485	13.3	26.7	ug/kg wet	4	533	---	91	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	800	13.3	26.7	ug/kg wet	4	533	---	150	39-120%	---	---	Q-29, Q-41
Hexachlorobenzene	460	5.32	10.7	ug/kg wet	4	533	---	86	45-122%	---	---	

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0380 - EPA 3546						Soil						
LCS (23J0380-BS2)						Prepared: 10/11/23 10:19 Analyzed: 10/11/23 19:35						Q-18
Hexachlorobutadiene	465	13.3	26.7	ug/kg wet	4	533	---	87	32-123%	---	---	
Hexachlorocyclopentadiene	425	26.7	53.2	ug/kg wet	4	533	---	80	10-140%	---	---	
Hexachloroethane	480	13.3	26.7	ug/kg wet	4	533	---	90	28-120%	---	---	
2-Chloronaphthalene	502	5.32	10.7	ug/kg wet	4	533	---	94	41-120%	---	---	
1,2,4-Trichlorobenzene	475	13.3	26.7	ug/kg wet	4	533	---	89	34-120%	---	---	
4-Bromophenyl phenyl ether	480	13.3	26.7	ug/kg wet	4	533	---	90	46-124%	---	---	
4-Chlorophenyl phenyl ether	486	13.3	26.7	ug/kg wet	4	533	---	91	45-121%	---	---	
Aniline	390	26.7	53.2	ug/kg wet	4	533	---	73	10-120%	---	---	Q-31
4-Chloroaniline	307	13.3	26.7	ug/kg wet	4	533	---	58	17-120%	---	---	Q-31
2-Nitroaniline	530	107	213	ug/kg wet	4	533	---	99	44-127%	---	---	
3-Nitroaniline	427	107	213	ug/kg wet	4	533	---	80	33-120%	---	---	
4-Nitroaniline	597	107	213	ug/kg wet	4	533	---	112	51-125%	---	---	
Nitrobenzene	640	53.2	107	ug/kg wet	4	533	---	120	34-122%	---	---	
2,4-Dinitrotoluene	554	53.2	107	ug/kg wet	4	533	---	104	48-126%	---	---	
2,6-Dinitrotoluene	517	53.2	107	ug/kg wet	4	533	---	97	46-124%	---	---	
Benzoic acid	741	668	668	ug/kg wet	4	1070	---	69	10-140%	---	---	
Benzyl alcohol	587	26.7	53.2	ug/kg wet	4	533	---	110	29-122%	---	---	
Isophorone	622	13.3	26.7	ug/kg wet	4	533	---	117	30-122%	---	---	
Azobenzene (1,2-DPH)	641	13.3	26.7	ug/kg wet	4	533	---	120	39-125%	---	---	Q-41
Bis(2-Ethylhexyl) adipate	527	133	267	ug/kg wet	4	533	---	99	61-121%	---	---	
3,3'-Dichlorobenzidine	1730	107	213	ug/kg wet	4	1070	---	162	22-121%	---	---	Q-29, Q-31, Q-52
1,2-Dinitrobenzene	509	133	267	ug/kg wet	4	533	---	95	44-120%	---	---	
1,3-Dinitrobenzene	511	133	267	ug/kg wet	4	533	---	96	43-127%	---	---	
1,4-Dinitrobenzene	492	133	267	ug/kg wet	4	533	---	92	37-132%	---	---	
Pyridine	465	26.7	53.2	ug/kg wet	4	533	---	87	10-120%	---	---	
1,2-Dichlorobenzene	499	13.3	26.7	ug/kg wet	4	533	---	93	33-120%	---	---	
1,3-Dichlorobenzene	490	13.3	26.7	ug/kg wet	4	533	---	92	30-120%	---	---	
1,4-Dichlorobenzene	496	13.3	26.7	ug/kg wet	4	533	---	93	31-120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 112 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>89 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>108 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>92 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>83 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>86 %</i>		<i>39-132 %</i>		<i>"</i>						

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0380 - EPA 3546						Soil							
Duplicate (23J0380-DUP2)			Prepared: 10/11/23 10:19 Analyzed: 10/11/23 20:10						COMP				
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)													
EPA 8270E													
Acenaphthene	3600	2710	5440	ug/kg dry	2000	---	4540	---	---	23	30%	J	
Acenaphthylene	20400	2710	5440	ug/kg dry	2000	---	6970	---	---	98	30%	Q-04	
Anthracene	17100	2710	5440	ug/kg dry	2000	---	7200	---	---	82	30%	Q-04	
Benz(a)anthracene	33800	2710	5440	ug/kg dry	2000	---	30700	---	---	10	30%		
Benzo(a)pyrene	67900	4070	8150	ug/kg dry	2000	---	66700	---	---	2	30%		
Benzo(b)fluoranthene	61600	4070	8150	ug/kg dry	2000	---	62900	---	---	2	30%		
Benzo(k)fluoranthene	20500	4070	8150	ug/kg dry	2000	---	20600	---	---	0.5	30%	M-05	
Benzo(g,h,i)perylene	63000	2710	5440	ug/kg dry	2000	---	72700	---	---	14	30%		
Chrysene	51800	2710	5440	ug/kg dry	2000	---	49000	---	---	6	30%		
Dibenz(a,h)anthracene	7240	2710	5440	ug/kg dry	2000	---	7990	---	---	10	30%		
Fluoranthene	80500	2710	5440	ug/kg dry	2000	---	56700	---	---	35	30%	Q-04	
Fluorene	10700	2710	5440	ug/kg dry	2000	---	ND	---	---		30%	Q-04	
Indeno(1,2,3-cd)pyrene	51000	2710	5440	ug/kg dry	2000	---	56100	---	---	10	30%		
1-Methylnaphthalene	7610	5440	10900	ug/kg dry	2000	---	ND	---	---		30%	Q-04, J	
2-Methylnaphthalene	9620	5440	10900	ug/kg dry	2000	---	ND	---	---		30%	J, Q-04	
Naphthalene	41300	5440	10900	ug/kg dry	2000	---	7480	---	---	139	30%	Q-04	
Phenanthrene	92600	2710	5440	ug/kg dry	2000	---	36700	---	---	86	30%	Q-04	
Pyrene	106000	2710	5440	ug/kg dry	2000	---	81100	---	---	26	30%		
Carbazole	4550	4070	8150	ug/kg dry	2000	---	ND	---	---		30%	Q-04, J	
Dibenzofuran	ND	2710	5440	ug/kg dry	2000	---	ND	---	---		30%		
2-Chlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---		30%		
4-Chloro-3-methylphenol	ND	27100	54400	ug/kg dry	2000	---	ND	---	---		30%		
2,4-Dichlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---		30%		
2,4-Dimethylphenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---		30%		
2,4-Dinitrophenol	ND	67800	136000	ug/kg dry	2000	---	ND	---	---		30%		
4,6-Dinitro-2-methylphenol	ND	67800	136000	ug/kg dry	2000	---	ND	---	---		30%		
2-Methylphenol	ND	6780	13600	ug/kg dry	2000	---	ND	---	---		30%		
3+4-Methylphenol(s)	ND	6780	13600	ug/kg dry	2000	---	ND	---	---		30%		
2-Nitrophenol	ND	27100	54400	ug/kg dry	2000	---	ND	---	---		30%		
4-Nitrophenol	ND	27100	54400	ug/kg dry	2000	---	ND	---	---		30%		
Pentachlorophenol (PCP)	ND	27100	54400	ug/kg dry	2000	---	ND	---	---		30%		

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0380 - EPA 3546						Soil							
Duplicate (23J0380-DUP2)			Prepared: 10/11/23 10:19 Analyzed: 10/11/23 20:10						COMP				
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)													
Phenol	ND	5440	10900	ug/kg dry	2000	---	ND	---	---	---	30%		
2,3,4,6-Tetrachlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
2,3,5,6-Tetrachlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
2,4,5-Trichlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
2,4,6-Trichlorophenol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
Bis(2-ethylhexyl)phthalate	ND	40700	81500	ug/kg dry	2000	---	ND	---	---	---	30%		
Butyl benzyl phthalate	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
Diethylphthalate	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
Dimethylphthalate	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
Di-n-butylphthalate	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
Di-n-octyl phthalate	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
N-Nitrosodimethylamine	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
N-Nitroso-di-n-propylamine	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
N-Nitrosodiphenylamine	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Bis(2-Chloroethoxy) methane	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Bis(2-Chloroethyl) ether	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
2,2'-Oxybis(1-Chloropropane)	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Hexachlorobenzene	ND	2710	5440	ug/kg dry	2000	---	ND	---	---	---	30%		
Hexachlorobutadiene	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Hexachlorocyclopentadiene	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
Hexachloroethane	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
2-Chloronaphthalene	ND	2710	5440	ug/kg dry	2000	---	ND	---	---	---	30%		
1,2,4-Trichlorobenzene	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
4-Bromophenyl phenyl ether	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
4-Chlorophenyl phenyl ether	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Aniline	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
4-Chloroaniline	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
2-Nitroaniline	ND	54400	109000	ug/kg dry	2000	---	ND	---	---	---	30%		
3-Nitroaniline	ND	54400	109000	ug/kg dry	2000	---	ND	---	---	---	30%		
4-Nitroaniline	ND	54400	109000	ug/kg dry	2000	---	ND	---	---	---	30%		
Nitrobenzene	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
2,4-Dinitrotoluene	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		
2,6-Dinitrotoluene	ND	27100	54400	ug/kg dry	2000	---	ND	---	---	---	30%		

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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23J0380 - EPA 3546						Soil							
Duplicate (23J0380-DUP2)			Prepared: 10/11/23 10:19 Analyzed: 10/11/23 20:10						COMP				
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)													
Benzoic acid	ND	340000	678000	ug/kg dry	2000	---	ND	---	---	---	30%		
Benzyl alcohol	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
Isophorone	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Azobenzene (1,2-DPH)	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
Bis(2-Ethylhexyl) adipate	ND	67800	136000	ug/kg dry	2000	---	ND	---	---	---	30%		
3,3'-Dichlorobenzidine	ND	54400	109000	ug/kg dry	2000	---	ND	---	---	---	30%	Q-52	
1,2-Dinitrobenzene	ND	67800	136000	ug/kg dry	2000	---	ND	---	---	---	30%		
1,3-Dinitrobenzene	ND	67800	136000	ug/kg dry	2000	---	ND	---	---	---	30%		
1,4-Dinitrobenzene	ND	67800	136000	ug/kg dry	2000	---	ND	---	---	---	30%		
Pyridine	ND	13600	27100	ug/kg dry	2000	---	ND	---	---	---	30%		
1,2-Dichlorobenzene	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
1,3-Dichlorobenzene	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
1,4-Dichlorobenzene	ND	6780	13600	ug/kg dry	2000	---	ND	---	---	---	30%		
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 2000x</i>		<i>S-05</i>					
<i>2-Fluorobiphenyl (Surr)</i>		<i>90 %</i>		<i>44-120 %</i>		<i>"</i>		<i>S-05</i>					
<i>Phenol-d6 (Surr)</i>		<i>%</i>		<i>33-122 %</i>		<i>"</i>		<i>S-01</i>					
<i>p-Terphenyl-d14 (Surr)</i>		<i>107 %</i>		<i>54-127 %</i>		<i>"</i>		<i>S-05</i>					
<i>2-Fluorophenol (Surr)</i>		<i>%</i>		<i>35-120 %</i>		<i>"</i>		<i>S-01</i>					
<i>2,4,6-Tribromophenol (Surr)</i>		<i>%</i>		<i>39-132 %</i>		<i>"</i>		<i>S-01</i>					

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc.	Project: Gasco - Soil Residuals	
2749 Lockport Road	Project Number: 111323	Report ID:
Niagara Falls, NY 14305	Project Manager: Chip Byrd	A3J0859 - 10 18 23 1025

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
Blank (23J0174-BLK1)						Prepared: 10/05/23 11:53 Analyzed: 10/05/23 23:30						TCLPa
<u>1311/8270E-LL</u>												
Acenaphthene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Phenol	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc.	Project: Gasco - Soil Residuals	
2749 Lockport Road	Project Number: 111323	Report ID:
Niagara Falls, NY 14305	Project Manager: Chip Byrd	A3J0859 - 10 18 23 1025

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
Blank (23J0174-BLK1)	Prepared: 10/05/23 11:53 Analyzed: 10/05/23 23:30										TCLPa	
2,3,5,6-Tetrachlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0500	0.500	ug/L	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Aniline	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
3-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
4-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Nitrobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzoic acid	ND	12.5	25.0	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Isophorone	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
Blank (23J0174-BLK1)						Prepared: 10/05/23 11:53 Analyzed: 10/05/23 23:30						TCLPa
Azobenzene (1,2-DPH)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
Pyridine	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>		<i>Q-41</i>				
<i>2-Fluorobiphenyl (Surr)</i>		<i>50 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>27 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>97 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>35 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>69 %</i>		<i>43-140 %</i>		<i>"</i>						
Blank (23J0174-BLK2)						Prepared: 10/05/23 11:54 Analyzed: 10/06/23 00:04						TCLP
1311/8270E-LL												
Acenaphthene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	

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ANALYTICAL REPORT

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc.	Project: Gasco - Soil Residuals	
2749 Lockport Road	Project Number: 111323	Report ID:
Niagara Falls, NY 14305	Project Manager: Chip Byrd	A3J0859 - 10 18 23 1025

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
Blank (23J0174-BLK2)						Prepared: 10/05/23 11:54 Analyzed: 10/06/23 00:04						TCLP
Phenanthrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.150	0.300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Phenol	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
Blank (23J0174-BLK2)						Prepared: 10/05/23 11:54 Analyzed: 10/06/23 00:04						TCLP
Hexachlorocyclopentadiene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0500	0.500	ug/L	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Aniline	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
3-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
4-Nitroaniline	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
Nitrobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzoic acid	ND	12.5	25.0	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Isophorone	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
Pyridine	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 71 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>		<i>Q-41</i>				
<i>2-Fluorobiphenyl (Surr)</i>		<i>51 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>25 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>97 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>36 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>55 %</i>		<i>43-140 %</i>		<i>"</i>						

LCS (23J0174-BS1)	Prepared: 10/05/23 11:53 Analyzed: 10/06/23 00:37
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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
LCS (23J0174-BS1)						Prepared: 10/05/23 11:53 Analyzed: 10/06/23 00:37						
1311/8270E-LL												
Acenaphthene	26.2	0.400	0.800	ug/L	4	40.0	---	65	47-122%	---	---	
Acenaphthylene	29.6	0.400	0.800	ug/L	4	40.0	---	74	41-130%	---	---	
Anthracene	41.2	0.400	0.800	ug/L	4	40.0	---	103	57-123%	---	---	
Benz(a)anthracene	41.9	0.400	0.800	ug/L	4	40.0	---	105	58-125%	---	---	
Benzo(a)pyrene	43.8	0.600	1.20	ug/L	4	40.0	---	109	54-128%	---	---	
Benzo(b)fluoranthene	43.5	0.600	1.20	ug/L	4	40.0	---	109	53-131%	---	---	
Benzo(k)fluoranthene	44.3	0.600	1.20	ug/L	4	40.0	---	111	57-129%	---	---	
Benzo(g,h,i)perylene	41.2	0.400	0.800	ug/L	4	40.0	---	103	50-134%	---	---	
Chrysene	42.2	0.400	0.800	ug/L	4	40.0	---	105	59-123%	---	---	
Dibenz(a,h)anthracene	42.7	0.400	0.800	ug/L	4	40.0	---	107	51-134%	---	---	
Fluoranthene	43.3	0.400	0.800	ug/L	4	40.0	---	108	57-128%	---	---	
Fluorene	33.2	0.400	0.800	ug/L	4	40.0	---	83	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	39.6	0.400	0.800	ug/L	4	40.0	---	99	52-134%	---	---	
1-Methylnaphthalene	21.1	0.800	1.60	ug/L	4	40.0	---	53	41-120%	---	---	
2-Methylnaphthalene	20.7	0.800	1.60	ug/L	4	40.0	---	52	40-121%	---	---	
Naphthalene	21.7	0.800	1.60	ug/L	4	40.0	---	54	40-121%	---	---	
Phenanthrene	38.3	0.400	0.800	ug/L	4	40.0	---	96	59-120%	---	---	
Pyrene	41.9	0.400	0.800	ug/L	4	40.0	---	105	57-126%	---	---	
Carbazole	46.4	0.600	1.20	ug/L	4	40.0	---	116	60-122%	---	---	
Dibenzofuran	29.2	0.400	0.800	ug/L	4	40.0	---	73	53-120%	---	---	
2-Chlorophenol	36.3	2.00	4.00	ug/L	4	40.0	---	91	38-120%	---	---	
4-Chloro-3-methylphenol	42.2	4.00	8.00	ug/L	4	40.0	---	105	52-120%	---	---	
2,4-Dichlorophenol	38.5	2.00	4.00	ug/L	4	40.0	---	96	47-121%	---	---	
2,4-Dimethylphenol	42.2	2.00	4.00	ug/L	4	40.0	---	106	31-124%	---	---	
2,4-Dinitrophenol	38.0	10.0	20.0	ug/L	4	40.0	---	95	23-143%	---	---	
4,6-Dinitro-2-methylphenol	34.0	10.0	20.0	ug/L	4	40.0	---	85	44-137%	---	---	
2-Methylphenol	36.6	1.00	2.00	ug/L	4	40.0	---	92	30-120%	---	---	
3+4-Methylphenol(s)	35.1	1.00	2.00	ug/L	4	40.0	---	88	29-120%	---	---	
2-Nitrophenol	44.4	4.00	8.00	ug/L	4	40.0	---	111	47-123%	---	---	
4-Nitrophenol	15.5	4.00	8.00	ug/L	4	40.0	---	39	10-120%	---	---	
Pentachlorophenol (PCP)	32.6	4.00	8.00	ug/L	4	40.0	---	81	35-138%	---	---	
Phenol	19.0	8.00	16.0	ug/L	4	40.0	---	48	10-120%	---	---	Q-41
2,3,4,6-Tetrachlorophenol	34.3	2.00	4.00	ug/L	4	40.0	---	86	50-128%	---	---	

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
LCS (23J0174-BS1)						Prepared: 10/05/23 11:53 Analyzed: 10/06/23 00:37						
2,3,5,6-Tetrachlorophenol	35.2	2.00	4.00	ug/L	4	40.0	---	88	50-121%	---	---	
2,4,5-Trichlorophenol	36.7	2.00	4.00	ug/L	4	40.0	---	92	53-123%	---	---	
2,4,6-Trichlorophenol	36.0	2.00	4.00	ug/L	4	40.0	---	90	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	48.0	8.00	16.0	ug/L	4	40.0	---	120	55-135%	---	---	
Butyl benzyl phthalate	47.5	8.00	16.0	ug/L	4	40.0	---	119	53-134%	---	---	
Diethylphthalate	45.2	8.00	16.0	ug/L	4	40.0	---	113	56-125%	---	---	
Dimethylphthalate	42.2	8.00	16.0	ug/L	4	40.0	---	105	45-127%	---	---	
Di-n-butylphthalate	48.8	8.00	16.0	ug/L	4	40.0	---	122	59-127%	---	---	
Di-n-octyl phthalate	49.4	8.00	16.0	ug/L	4	40.0	---	123	51-140%	---	---	
N-Nitrosodimethylamine	28.3	1.00	2.00	ug/L	4	40.0	---	71	19-120%	---	---	Q-41
N-Nitroso-di-n-propylamine	49.0	1.00	2.00	ug/L	4	40.0	---	123	49-120%	---	---	Q-29, Q-41
N-Nitrosodiphenylamine	45.0	1.00	2.00	ug/L	4	40.0	---	113	51-123%	---	---	
Bis(2-Chloroethoxy) methane	43.3	1.00	2.00	ug/L	4	40.0	---	108	48-120%	---	---	
Bis(2-Chloroethyl) ether	44.4	1.00	2.00	ug/L	4	40.0	---	111	43-120%	---	---	Q-41
2,2'-Oxybis(1-Chloropropane)	40.8	1.00	2.00	ug/L	4	40.0	---	102	41-120%	---	---	Q-41
Hexachlorobenzene	34.1	0.400	0.800	ug/L	4	40.0	---	85	53-125%	---	---	
Hexachlorobutadiene	14.3	1.00	2.00	ug/L	4	40.0	---	36	22-124%	---	---	
Hexachlorocyclopentadiene	8.18	2.00	4.00	ug/L	4	40.0	---	20	10-127%	---	---	
Hexachloroethane	16.6	1.00	2.00	ug/L	4	40.0	---	41	21-120%	---	---	
2-Chloronaphthalene	21.9	0.400	0.800	ug/L	4	40.0	---	55	40-120%	---	---	
1,2,4-Trichlorobenzene	16.1	0.200	2.00	ug/L	4	40.0	---	40	29-120%	---	---	
4-Bromophenyl phenyl ether	31.6	1.00	2.00	ug/L	4	40.0	---	79	55-124%	---	---	
4-Chlorophenyl phenyl ether	28.0	1.00	2.00	ug/L	4	40.0	---	70	53-121%	---	---	
Aniline	33.6	2.00	4.00	ug/L	4	40.0	---	84	10-120%	---	---	
4-Chloroaniline	33.0	1.00	2.00	ug/L	4	40.0	---	82	33-120%	---	---	
2-Nitroaniline	43.3	8.00	16.0	ug/L	4	40.0	---	108	55-127%	---	---	
3-Nitroaniline	55.4	8.00	16.0	ug/L	4	40.0	---	138	41-128%	---	---	Q-29, Q-41
4-Nitroaniline	40.7	8.00	16.0	ug/L	4	40.0	---	102	25-120%	---	---	
Nitrobenzene	40.6	4.00	8.00	ug/L	4	40.0	---	101	45-121%	---	---	Q-41
2,4-Dinitrotoluene	37.9	4.00	8.00	ug/L	4	40.0	---	95	57-128%	---	---	
2,6-Dinitrotoluene	40.7	4.00	8.00	ug/L	4	40.0	---	102	57-124%	---	---	
Benzoic acid	40.9	20.0	20.0	ug/L	4	80.0	---	51	10-120%	---	---	
Benzyl alcohol	36.7	4.00	8.00	ug/L	4	40.0	---	92	31-120%	---	---	
Isophorone	45.3	1.00	2.00	ug/L	4	40.0	---	113	42-124%	---	---	

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)												
Soil												
LCS (23J0174-BS1)												
Prepared: 10/05/23 11:53 Analyzed: 10/06/23 00:37												
Azobenzene (1,2-DPH)	48.3	1.00	2.00	ug/L	4	40.0	---	121	61-120%	---	---	Q-29, Q-41
Bis(2-Ethylhexyl) adipate	49.1	10.0	20.0	ug/L	4	40.0	---	123	63-121%	---	---	Q-29
1,2-Dinitrobenzene	41.1	10.0	20.0	ug/L	4	40.0	---	103	59-120%	---	---	
1,3-Dinitrobenzene	40.0	10.0	20.0	ug/L	4	40.0	---	100	49-128%	---	---	
1,4-Dinitrobenzene	39.7	10.0	20.0	ug/L	4	40.0	---	99	54-120%	---	---	
Pyridine	24.8	4.00	8.00	ug/L	4	40.0	---	62	10-120%	---	---	
1,2-Dichlorobenzene	17.4	1.00	2.00	ug/L	4	40.0	---	44	32-120%	---	---	
1,3-Dichlorobenzene	16.4	1.00	2.00	ug/L	4	40.0	---	41	28-120%	---	---	
1,4-Dichlorobenzene	17.1	1.00	2.00	ug/L	4	40.0	---	43	29-120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr) Recovery: 108 % Limits: 44-120 % Dilution: 4x Q-41</i>												
<i>2-Fluorobiphenyl (Surr) 80 % 44-120 % "</i>												
<i>Phenol-d6 (Surr) 38 % 10-133 % "</i>												
<i>p-Terphenyl-d14 (Surr) 107 % 50-134 % "</i>												
<i>2-Fluorophenol (Surr) 55 % 19-120 % "</i>												
<i>2,4,6-Tribromophenol (Surr) 94 % 43-140 % "</i>												
LCS Dup (23J0174-BSD1)												
Prepared: 10/05/23 11:53 Analyzed: 10/06/23 01:10												
1311/8270E-LL												
Acenaphthene	26.1	0.400	0.800	ug/L	4	40.0	---	65	47-122%	0.2	30%	
Acenaphthylene	30.4	0.400	0.800	ug/L	4	40.0	---	76	41-130%	3	30%	
Anthracene	39.2	0.400	0.800	ug/L	4	40.0	---	98	57-123%	5	30%	
Benz(a)anthracene	40.6	0.400	0.800	ug/L	4	40.0	---	102	58-125%	3	30%	
Benzo(a)pyrene	42.5	0.600	1.20	ug/L	4	40.0	---	106	54-128%	3	30%	
Benzo(b)fluoranthene	41.5	0.600	1.20	ug/L	4	40.0	---	104	53-131%	5	30%	
Benzo(k)fluoranthene	41.9	0.600	1.20	ug/L	4	40.0	---	105	57-129%	6	30%	
Benzo(g,h,i)perylene	39.6	0.400	0.800	ug/L	4	40.0	---	99	50-134%	4	30%	
Chrysene	40.8	0.400	0.800	ug/L	4	40.0	---	102	59-123%	3	30%	
Dibenz(a,h)anthracene	39.8	0.400	0.800	ug/L	4	40.0	---	100	51-134%	7	30%	
Fluoranthene	41.3	0.400	0.800	ug/L	4	40.0	---	103	57-128%	5	30%	
Fluorene	32.8	0.400	0.800	ug/L	4	40.0	---	82	52-124%	1	30%	
Indeno(1,2,3-cd)pyrene	38.1	0.400	0.800	ug/L	4	40.0	---	95	52-134%	4	30%	
1-Methylnaphthalene	21.3	0.800	1.60	ug/L	4	40.0	---	53	41-120%	1	30%	
2-Methylnaphthalene	20.7	0.800	1.60	ug/L	4	40.0	---	52	40-121%	0.4	30%	
Naphthalene	22.1	0.800	1.60	ug/L	4	40.0	---	55	40-121%	2	30%	

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
LCS Dup (23J0174-BSD1)						Prepared: 10/05/23 11:53 Analyzed: 10/06/23 01:10						Q-19
Phenanthrene	36.2	0.400	0.800	ug/L	4	40.0	---	90	59-120%	6	30%	
Pyrene	41.3	0.400	0.800	ug/L	4	40.0	---	103	57-126%	1	30%	
Carbazole	44.2	0.600	1.20	ug/L	4	40.0	---	110	60-122%	5	30%	
Dibenzofuran	30.0	0.400	0.800	ug/L	4	40.0	---	75	53-120%	2	30%	
2-Chlorophenol	34.6	2.00	4.00	ug/L	4	40.0	---	86	38-120%	5	30%	
4-Chloro-3-methylphenol	40.4	4.00	8.00	ug/L	4	40.0	---	101	52-120%	4	30%	
2,4-Dichlorophenol	37.5	2.00	4.00	ug/L	4	40.0	---	94	47-121%	3	30%	
2,4-Dimethylphenol	38.8	2.00	4.00	ug/L	4	40.0	---	97	31-124%	9	30%	
2,4-Dinitrophenol	41.1	10.0	20.0	ug/L	4	40.0	---	103	23-143%	8	30%	
4,6-Dinitro-2-methylphenol	35.4	10.0	20.0	ug/L	4	40.0	---	88	44-137%	4	30%	
2-Methylphenol	34.7	1.00	2.00	ug/L	4	40.0	---	87	30-120%	5	30%	
3+4-Methylphenol(s)	33.5	1.00	2.00	ug/L	4	40.0	---	84	29-120%	5	30%	Q-41
2-Nitrophenol	41.6	4.00	8.00	ug/L	4	40.0	---	104	47-123%	7	30%	
4-Nitrophenol	15.8	4.00	8.00	ug/L	4	40.0	---	39	10-120%	2	30%	
Pentachlorophenol (PCP)	32.5	4.00	8.00	ug/L	4	40.0	---	81	35-138%	0.4	30%	
Phenol	18.2	8.00	16.0	ug/L	4	40.0	---	45	10-120%	5	30%	Q-41
2,3,4,6-Tetrachlorophenol	33.9	2.00	4.00	ug/L	4	40.0	---	85	50-128%	1	30%	
2,3,5,6-Tetrachlorophenol	34.9	2.00	4.00	ug/L	4	40.0	---	87	50-121%	0.7	30%	
2,4,5-Trichlorophenol	36.0	2.00	4.00	ug/L	4	40.0	---	90	53-123%	2	30%	
2,4,6-Trichlorophenol	35.5	2.00	4.00	ug/L	4	40.0	---	89	50-125%	1	30%	
Bis(2-ethylhexyl)phthalate	44.5	8.00	16.0	ug/L	4	40.0	---	111	55-135%	8	30%	
Butyl benzyl phthalate	44.4	8.00	16.0	ug/L	4	40.0	---	111	53-134%	7	30%	
Diethylphthalate	43.1	8.00	16.0	ug/L	4	40.0	---	108	56-125%	5	30%	
Dimethylphthalate	39.7	8.00	16.0	ug/L	4	40.0	---	99	45-127%	6	30%	
Di-n-butylphthalate	45.6	8.00	16.0	ug/L	4	40.0	---	114	59-127%	7	30%	
Di-n-octyl phthalate	44.9	8.00	16.0	ug/L	4	40.0	---	112	51-140%	9	30%	
N-Nitrosodimethylamine	25.3	1.00	2.00	ug/L	4	40.0	---	63	19-120%	11	30%	Q-41
N-Nitroso-di-n-propylamine	47.0	1.00	2.00	ug/L	4	40.0	---	117	49-120%	4	30%	Q-41
N-Nitrosodiphenylamine	43.1	1.00	2.00	ug/L	4	40.0	---	108	51-123%	4	30%	
Bis(2-Chloroethoxy) methane	40.9	1.00	2.00	ug/L	4	40.0	---	102	48-120%	6	30%	
Bis(2-Chloroethyl) ether	41.3	1.00	2.00	ug/L	4	40.0	---	103	43-120%	7	30%	Q-41
2,2'-Oxybis(1-Chloropropane)	41.1	1.00	2.00	ug/L	4	40.0	---	103	41-120%	0.8	30%	Q-41
Hexachlorobenzene	32.1	0.400	0.800	ug/L	4	40.0	---	80	53-125%	6	30%	
Hexachlorobutadiene	11.8	1.00	2.00	ug/L	4	40.0	---	30	22-124%	19	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0174 - EPA 1311/3510C (BNA Extraction)						Soil						
LCS Dup (23J0174-BSD1)						Prepared: 10/05/23 11:53 Analyzed: 10/06/23 01:10						Q-19
Hexachlorocyclopentadiene	7.96	2.00	4.00	ug/L	4	40.0	---	20	10-127%	3	30%	
Hexachloroethane	14.3	1.00	2.00	ug/L	4	40.0	---	36	21-120%	15	30%	
2-Chloronaphthalene	21.8	0.400	0.800	ug/L	4	40.0	---	55	40-120%	0.2	30%	
1,2,4-Trichlorobenzene	14.8	0.200	2.00	ug/L	4	40.0	---	37	29-120%	9	30%	
4-Bromophenyl phenyl ether	29.5	1.00	2.00	ug/L	4	40.0	---	74	55-124%	7	30%	
4-Chlorophenyl phenyl ether	27.7	1.00	2.00	ug/L	4	40.0	---	69	53-121%	1	30%	
Aniline	36.0	2.00	4.00	ug/L	4	40.0	---	90	10-120%	7	30%	
4-Chloroaniline	39.4	1.00	2.00	ug/L	4	40.0	---	99	33-120%	18	30%	
2-Nitroaniline	42.4	8.00	16.0	ug/L	4	40.0	---	106	55-127%	2	30%	
3-Nitroaniline	58.1	8.00	16.0	ug/L	4	40.0	---	145	41-128%	5	30%	Q-29, Q-41
4-Nitroaniline	42.2	8.00	16.0	ug/L	4	40.0	---	106	25-120%	4	30%	
Nitrobenzene	40.5	4.00	8.00	ug/L	4	40.0	---	101	45-121%	0.2	30%	Q-41
2,4-Dinitrotoluene	37.5	4.00	8.00	ug/L	4	40.0	---	94	57-128%	1	30%	
2,6-Dinitrotoluene	39.3	4.00	8.00	ug/L	4	40.0	---	98	57-124%	4	30%	
Benzoic acid	42.3	20.0	20.0	ug/L	4	80.0	---	53	10-120%	3	30%	
Benzyl alcohol	35.2	4.00	8.00	ug/L	4	40.0	---	88	31-120%	4	30%	
Isophorone	42.4	1.00	2.00	ug/L	4	40.0	---	106	42-124%	7	30%	
Azobenzene (1,2-DPH)	46.0	1.00	2.00	ug/L	4	40.0	---	115	61-120%	5	30%	Q-41
Bis(2-Ethylhexyl) adipate	44.9	10.0	20.0	ug/L	4	40.0	---	112	63-121%	9	30%	
1,2-Dinitrobenzene	39.9	10.0	20.0	ug/L	4	40.0	---	100	59-120%	3	30%	
1,3-Dinitrobenzene	39.0	10.0	20.0	ug/L	4	40.0	---	97	49-128%	3	30%	
1,4-Dinitrobenzene	39.5	10.0	20.0	ug/L	4	40.0	---	99	54-120%	0.4	30%	
Pyridine	21.8	4.00	8.00	ug/L	4	40.0	---	55	10-120%	13	30%	
1,2-Dichlorobenzene	16.2	1.00	2.00	ug/L	4	40.0	---	41	32-120%	7	30%	
1,3-Dichlorobenzene	15.1	1.00	2.00	ug/L	4	40.0	---	38	28-120%	8	30%	
1,4-Dichlorobenzene	15.7	1.00	2.00	ug/L	4	40.0	---	39	29-120%	8	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>		<i>Q-41</i>				
<i>2-Fluorobiphenyl (Surr)</i>		<i>76 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>37 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>99 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>52 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>92 %</i>		<i>43-140 %</i>		<i>"</i>						

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ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0499 - EPA 3051A												
Soil												
Blank (23J0499-BLK1) Prepared: 10/13/23 10:45 Analyzed: 10/13/23 18:39												
<u>EPA 6020B</u>												
Arsenic	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Barium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Cadmium	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	
Chromium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Lead	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	
Mercury	ND	40.0	80.0	ug/kg wet	10	---	---	---	---	---	---	
Selenium	ND	500	1000	ug/kg wet	10	---	---	---	---	---	---	
Silver	ND	100	200	ug/kg wet	10	---	---	---	---	---	---	
LCS (23J0499-BS1) Prepared: 10/13/23 10:45 Analyzed: 10/13/23 18:51												
<u>EPA 6020B</u>												
Arsenic	50900	500	1000	ug/kg wet	10	50000	---	102	80-120%	---	---	
Barium	51400	500	1000	ug/kg wet	10	50000	---	103	80-120%	---	---	
Cadmium	49800	100	200	ug/kg wet	10	50000	---	100	80-120%	---	---	
Chromium	50500	500	1000	ug/kg wet	10	50000	---	101	80-120%	---	---	
Lead	52000	100	200	ug/kg wet	10	50000	---	104	80-120%	---	---	
Mercury	1020	40.0	80.0	ug/kg wet	10	1000	---	102	80-120%	---	---	
Selenium	24500	500	1000	ug/kg wet	10	25000	---	98	80-120%	---	---	
Silver	27600	100	200	ug/kg wet	10	25000	---	110	80-120%	---	---	
Duplicate (23J0499-DUP1) Prepared: 10/13/23 10:45 Analyzed: 10/13/23 19:01												
<u>QC Source Sample: Non-SDG (A3J0853-02)</u>												
Arsenic	6780	513	1030	ug/kg dry	10	---	7150	---	---	5	20%	PRO
Barium	161000	513	1030	ug/kg dry	10	---	163000	---	---	1	20%	PRO
Cadmium	192	103	205	ug/kg dry	10	---	206	---	---	7	20%	PRO,J
Chromium	22200	513	1030	ug/kg dry	10	---	24400	---	---	9	20%	PRO
Lead	61900	103	205	ug/kg dry	10	---	65700	---	---	6	20%	PRO
Mercury	ND	41.1	82.1	ug/kg dry	10	---	ND	---	---	---	20%	PRO
Selenium	ND	513	1030	ug/kg dry	10	---	ND	---	---	---	20%	PRO
Silver	ND	103	205	ug/kg dry	10	---	ND	---	---	---	20%	PRO
Matrix Spike (23J0499-MS1) Prepared: 10/13/23 10:45 Analyzed: 10/13/23 19:07												

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0499 - EPA 3051A						Soil						
Matrix Spike (23J0499-MS1)						Prepared: 10/13/23 10:45 Analyzed: 10/13/23 19:07						
QC Source Sample: Non-SDG (A3J0853-02)												
EPA 6020B												
Arsenic	53700	498	996	ug/kg dry	10	49800	7150	93	75-125%	---	---	PRO
Barium	216000	498	996	ug/kg dry	10	49800	163000	105	75-125%	---	---	PRO
Cadmium	47800	99.6	199	ug/kg dry	10	49800	206	95	75-125%	---	---	PRO
Chromium	71300	498	996	ug/kg dry	10	49800	24400	94	75-125%	---	---	PRO
Lead	109000	99.6	199	ug/kg dry	10	49800	65700	88	75-125%	---	---	PRO
Mercury	945	39.9	79.7	ug/kg dry	10	996	ND	95	75-125%	---	---	PRO
Selenium	24000	498	996	ug/kg dry	10	24900	ND	96	75-125%	---	---	PRO
Silver	26000	99.6	199	ug/kg dry	10	24900	ND	104	75-125%	---	---	PRO

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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0175 - EPA 1311/3015A												
Solid												
Blank (23J0175-BLK1)												
Prepared: 10/05/23 12:09 Analyzed: 10/05/23 16:33												
1311/6020B												
Arsenic	ND	50.0	100	ug/L	10	---	---	---	---	---	---	TCLPa
Barium	ND	2500	5000	ug/L	10	---	---	---	---	---	---	TCLPa
Cadmium	ND	50.0	100	ug/L	10	---	---	---	---	---	---	TCLPa
Chromium	ND	50.0	100	ug/L	10	---	---	---	---	---	---	TCLPa
Lead	ND	25.0	50.0	ug/L	10	---	---	---	---	---	---	TCLPa
Mercury	ND	3.75	7.00	ug/L	10	---	---	---	---	---	---	TCLPa
Selenium	ND	50.0	100	ug/L	10	---	---	---	---	---	---	TCLPa
Silver	ND	50.0	100	ug/L	10	---	---	---	---	---	---	TCLPa
LCS (23J0175-BS1)												
Prepared: 10/05/23 12:09 Analyzed: 10/05/23 16:38												
1311/6020B												
Arsenic	5170	50.0	100	ug/L	10	5000	---	103	80-120%	---	---	TCLPa
Barium	10800	2500	5000	ug/L	10	10000	---	108	80-120%	---	---	TCLPa
Cadmium	1080	50.0	100	ug/L	10	1000	---	108	80-120%	---	---	TCLPa
Chromium	5290	50.0	100	ug/L	10	5000	---	106	80-120%	---	---	TCLPa
Lead	5490	25.0	50.0	ug/L	10	5000	---	110	80-120%	---	---	TCLPa
Mercury	102	3.75	7.00	ug/L	10	100	---	102	80-120%	---	---	TCLPa
Selenium	1030	50.0	100	ug/L	10	1000	---	103	80-120%	---	---	TCLPa
Silver	1070	50.0	100	ug/L	10	1000	---	107	80-120%	---	---	TCLPa
Duplicate (23J0175-DUP1)												
Prepared: 10/05/23 12:09 Analyzed: 10/05/23 16:59												
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1311/6020B												
Arsenic	ND	50.0	100	ug/L	10	---	ND	---	---	---	20%	COMP
Barium	ND	2500	5000	ug/L	10	---	ND	---	---	---	20%	COMP
Cadmium	ND	50.0	100	ug/L	10	---	ND	---	---	---	20%	COMP
Chromium	ND	50.0	100	ug/L	10	---	ND	---	---	---	20%	COMP
Lead	ND	25.0	50.0	ug/L	10	---	ND	---	---	---	20%	COMP
Mercury	ND	3.75	7.00	ug/L	10	---	ND	---	---	---	20%	COMP
Selenium	ND	50.0	100	ug/L	10	---	ND	---	---	---	20%	COMP
Silver	ND	50.0	100	ug/L	10	---	ND	---	---	---	20%	COMP
Matrix Spike (23J0175-MS1)												
Prepared: 10/05/23 12:09 Analyzed: 10/05/23 17:04												

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Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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QUALITY CONTROL (QC) SAMPLE RESULTS

TCLP Metals by EPA 6020B (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0175 - EPA 1311/3015A						Solid						
Matrix Spike (23J0175-MS1)						Prepared: 10/05/23 12:09 Analyzed: 10/05/23 17:04						
QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)												
1311/6020B												
Arsenic	5140	50.0	100	ug/L	10	5000	ND	103	50-150%	---	---	COMP
Barium	10800	2500	5000	ug/L	10	10000	ND	108	50-150%	---	---	COMP
Cadmium	1050	50.0	100	ug/L	10	1000	ND	105	50-150%	---	---	COMP
Chromium	5200	50.0	100	ug/L	10	5000	ND	104	50-150%	---	---	COMP
Lead	5270	25.0	50.0	ug/L	10	5000	ND	105	50-150%	---	---	COMP
Mercury	97.9	3.75	7.00	ug/L	10	100	ND	98	50-150%	---	---	COMP
Selenium	1020	50.0	100	ug/L	10	1000	ND	102	50-150%	---	---	COMP
Silver	1000	50.0	100	ug/L	10	1000	ND	100	50-150%	---	---	COMP

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QUALITY CONTROL (QC) SAMPLE RESULTS

Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0220 - ASTM D7511-12mod (S)						Soil						
Blank (23J0220-BLK1)						Prepared: 10/06/23 10:36 Analyzed: 10/06/23 19:00						
<u>D7511-12</u>												
Total Cyanide	ND	50.0	100	ug/kg wet	1	---	---	---	---	---	---	
LCS (23J0220-BS1)						Prepared: 10/06/23 10:36 Analyzed: 10/06/23 19:02						
<u>D7511-12</u>												
Total Cyanide	420	50.0	100	ug/kg wet	1	400	---	105	84-116%	---	---	
Matrix Spike (23J0220-MS1)						Prepared: 10/06/23 10:36 Analyzed: 10/06/23 19:16						
<u>QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)</u>												
<u>D7511-12</u>												
Total Cyanide	4410	264	527	ug/kg dry	5	422	2860	369	64-136%	---	---	Q-02
Matrix Spike Dup (23J0220-MSD1)						Prepared: 10/06/23 10:36 Analyzed: 10/06/23 19:20						
<u>QC Source Sample: Soils 10-02-2023-Composite (A3J0859-03)</u>												
<u>D7511-12</u>												
Total Cyanide	4720	263	527	ug/kg dry	5	421	2860	442	64-136%	7	47%	Q-02

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23J0108 - Total Solids (Dry Weight) - 2022						Soil						
Duplicate (23J0108-DUP1)			Prepared: 10/04/23 09:51 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0856-01)</u>												
% Solids	86.7	1.00	1.00	%	1	---	87.6	---	---	1	10%	
Duplicate (23J0108-DUP2)			Prepared: 10/04/23 09:51 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0856-02)</u>												
% Solids	90.6	1.00	1.00	%	1	---	90.7	---	---	0.1	10%	
Duplicate (23J0108-DUP3)			Prepared: 10/04/23 09:51 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0856-03)</u>												
% Solids	81.5	1.00	1.00	%	1	---	82.1	---	---	0.6	10%	
Duplicate (23J0108-DUP4)			Prepared: 10/04/23 09:51 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0856-04)</u>												
% Solids	80.8	1.00	1.00	%	1	---	83.0	---	---	3	10%	
Duplicate (23J0108-DUP5)			Prepared: 10/04/23 09:51 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0856-05)</u>												
% Solids	83.3	1.00	1.00	%	1	---	83.2	---	---	0.1	10%	
Duplicate (23J0108-DUP6)			Prepared: 10/04/23 18:59 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0912-01)</u>												
% Solids	94.5	1.00	1.00	%	1	---	94.4	---	---	0.02	10%	
Duplicate (23J0108-DUP7)			Prepared: 10/04/23 18:59 Analyzed: 10/05/23 08:41									
<u>QC Source Sample: Non-SDG (A3J0945-02)</u>												
% Solids	72.8	1.00	1.00	%	1	---	72.5	---	---	0.3	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3546 (Fuels)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0476</u>							
A3J0859-03RE1	Soil	NWTPH-Dx	10/02/23 21:00	10/13/23 08:22	10.29g/5mL	10g/5mL	0.97

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0101</u>							
A3J0859-03	Soil	NWTPH-Gx (MS)	10/02/23 21:00	10/02/23 21:00	50.72g/50mL	5g/5mL	0.99

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0101</u>							
A3J0859-03	Soil	5035A/8260D	10/02/23 21:00	10/02/23 21:00	50.72g/50mL	5g/5mL	0.99
<u>Batch: 23J0178</u>							
A3J0859-03RE1	Soil	5035A/8260D	10/02/23 21:00	10/02/23 21:00	50.72g/50mL	5g/5mL	0.99

TCLP Volatile Organic Compounds by EPA 1311/8260D

Prep: EPA 1311/5030C TCLP Volatiles					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0304</u>							
A3J0859-03	Soil	1311/8260D	10/02/23 21:00	10/09/23 16:12	5mL/5mL	5mL/5mL	1.00

Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3546					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23J0380</u>							
A3J0859-03	Soil	EPA 8270E	10/02/23 21:00	10/11/23 10:19	15.3g/2mL	15g/2mL	0.98

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Sevenson Environmental Services, Inc. 2749 Lockport Road Niagara Falls, NY 14305	Project: Gasco - Soil Residuals Project Number: 111323 Project Manager: Chip Byrd	Report ID: A3J0859 - 10 18 23 1025
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SAMPLE PREPARATION INFORMATION

TCLP Semivolatile Organic Compounds by EPA 1311/8270E

Prep: EPA 1311/3510C (BNA Extraction)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0174							
A3J0859-03RE1	Soil	1311/8270E-LL	10/02/23 21:00	10/05/23 11:53	200mL/2mL	200mL/2mL	1.00

Total Metals by EPA 6020B (ICPMS)

Prep: EPA 3051A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0499							
A3J0859-03	Soil	EPA 6020B	10/02/23 21:00	10/13/23 10:45	0.518g/50mL	0.5g/50mL	0.97

TCLP Metals by EPA 6020B (ICPMS)

Prep: EPA 1311/3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0175							
A3J0859-03	Soil	1311/6020B	10/02/23 21:00	10/05/23 12:09	10mL/50mL	10mL/50mL	1.00

Soluble Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12mod (S)					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0220							
A3J0859-03	Soil	D7511-12	10/02/23 21:00	10/06/23 10:36	2.5097g/50mL	2.5g/50mL	1.00

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0108							
A3J0859-03	Soil	EPA 8000D	10/02/23 21:00	10/04/23 09:51			NA

TCLP Extraction by EPA 1311 (ZHE)

Prep: EPA 1311 TCLP/ZHE					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 23J0192							
A3J0859-03	Soil	EPA 1311 ZHE	10/02/23 21:00	10/05/23 15:37	25g/502.8g	25g/500g	NA

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SAMPLE PREPARATION INFORMATION

TCLP Extraction by EPA 1311 (ZHE)

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2749 Lockport Road
Niagara Falls, NY 14305

Project: **Gasco - Soil Residuals**
Project Number: **111323**
Project Manager: **Chip Byrd**

Report ID:
A3J0859 - 10 18 23 1025

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- A-01** Reporting limit raised due to possible lab contamination.
- COMP** Analyzed sample is a composite of discrete samples that was performed in the laboratory.
- E** Estimated Value. The result is above the calibration range of the instrument.
- EST** Result reported as an Estimated Value. Failed initial calibration criteria
- F-13** The chromatographic pattern does not resemble the fuel standard used for quantitation
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- M-02** Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- M-05** Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
- PRO** Sample has undergone sample processing prior to extraction and analysis.
- Q-02** Spike recovery is outside of established control limits due to matrix interference.
- Q-04** Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-18** Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-29** Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-31** Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-37** Sample is non-homogenous. Sample results are less than the Reporting Level (MDL and/or MRL) and Duplicate results exceed this level. See QC Section of the report for Duplicate results.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- Q-52** Due to known erratic recoveries, the result and reporting levels for this analyte are reported as Estimated Values. This analyte may not have passed all QC requirements for this method.
- Q-54** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +16%. The results are reported as Estimated Values.
- Q-54a** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +17%. The results are reported as Estimated Values.
- Q-54b** Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260/8270 by +2%. The results are reported as Estimated Values.

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Darwin Thomas, Business Development Director



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- Q-56** Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260
- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01** Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- TCLP** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23I0933.
- TCLPa** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0103.
- TCLPb** This batch QC sample was prepared with TCLP or SPLP fluid from preparation batch 23J0192.
- TEMP** Sample was received outside of recommended temperature.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

- " dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- " wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a "dry weight" basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an "As Received" basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:


In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Project Number: 111323
Project Manager: Chip Byrd

Report ID:
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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

- Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
 - For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
 - For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
- For further details, please request a copy of this document.
- Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
- 'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Darwin Thomas, Business Development Director



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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
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All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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APEX LABS COOLER RECEIPT FORM

Client: Sevenson Environmental Services, Inc. Element WO#: A3J0859

Project/Project #: Gasco - Soil Residuals 111323

Delivery Info:
Date/time received: 10/3/23 @ 1005 By: EST
Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 10/3/23 @ 1036 By: EST
Chain of Custody included? Yes No
Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.0</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Ice</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) N Possible reason why: _____
Green dots applied to out of temperature samples? Yes No
Out of temperature samples form initiated? Yes No

Sample Inspection: Date/time inspected: 10/3/23 @ 1155 By: RHP
All samples intact? Yes No Comments: _____
Bottle labels/COCs agree? Yes No Comments: _____
COC/container discrepancies form initiated? Yes No
Containers/volumes received appropriate for analysis? Yes No Comments: _____
Do VOA vials have visible headspace? Yes No NA
Comments: _____
Water samples: pH checked: Yes No NA pH appropriate? Yes No NA pH ID: _____
Comments: _____

Additional information: _____

Labeled by: RHP Witness: KAM Cooler Inspected by: EST
Form Y-003 R-01

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