INVENTUM ENGINEERING

Tank Management and Closure Construction Completion Report Tank No. ST02

Riverview Innovation & Technology Campus

Brownfield Cleanup Program Site No. C915353

3875 River Road

Tonawanda, New York 14150

August 19, 2025

441 CARLISLE DRIVE
SUITE C
HERNDON, VA 20170
WWW.INVENTUMENG.COM

1. Facility Information Summary

Facility Information	
Name of Facility:	Riverview Innovation & Technology Campus, Inc. (RITC)
Address:	3875 River Road, Tonawanda, NY 14150
County:	Erie
Waste Generator Status:	Large Quantity Generator
EPA Identification Number:	NYD088413877
Site Operator:	Ontario Specialty Contracting (OSC)
Operator Address:	140 Lee Street, Buffalo, NY 14210
RITC Project Manager:	Dan Flanigan
RITC Project Manager Email:	dflanigan@oscinc.com
Engineering Consultant:	Inventum Engineering
Consultant Address:	441 Carlisle Drive, Suite C, Herndon, VA 20170
Consultant Contact:	John Black, P.E.
Consultant Email:	John.Black@inventumeng.com

2. Above Ground Storage Tank Information

Tank No.:	ST02
Grid Location:	G11
Location Notes:	ST02 was located in the southern portion of the Weak Ammonia Liquor Area secondary containment.
Date of Closure:	10/1/2021
Tank Dimensions:	Horizontal Capsule 10-foot Diameter, 25-foot Length
Storage Capacity:	18,600 gallons
Tank Exterior Coating Description:	ST02 had a green asbestos containing coating. The coating was in poor condition; chipped, flaking, or worn away due to weather exposure.
Tank Piping Description:	None
Secondary Containment Description:	Reinforced concrete, possibly cast in place based on apparent seams surrounding tanks PT02 and PT03.
Contents Description:	ST02 contained approximately 0.5-feet of a solid, white, crystalline material.

3. AST Closure Procedure

Contractor:	US Ecology
Contractor Address:	2525 George Urban Blvd, Depew, NY 14043
Dates of Cleaning:	9/28/2021 – 10/1/2021
Cleaning Method:	Hot water power washing and mechanical removal of residuals.
Disposition of tank shell and piping:	ST02 shell and piping were disposed as asbestos containing material (ACM).
Recycler or Disposal Facility Address:	Modern Landfill 1445 Pletcher Road, Model City, New York 14107
Contents Volume Disposed:	2.24 tons were disposed. Six 55-gallon drums of tank residuals and decontamination water were stabilized with sawdust.
Disposition of Contents & Hazardous Waste Code(s):	Disposed as non-hazardous solid waste at Modern Landfill.
Disposal Facility Address:	Modern Landfill 1445 Pletcher Road, Model City, New York 14107
Disposal Facility EPA No.:	NA
Hazardous Waste Transporter Name:	NA
Hazardous Waste Transporter EPA No.:	NA

4. Inspection Summary

Tank closure inspection:	Tank residuals were completely removed. No standing water from decontamination was present in the tank interior. Tank was cleared for disposal in October 2021.
Evidence of Leaks and/or additional observations:	The tank shell was intact and flanges at base of tank were closed. While tar-like materials were observed within the secondary containment, likely from other process equipment, it did not appear that tank ST02 had leaked or had a release. Management of the secondary containment, including inspection, photographic documentation, and sub-slab sampling is documented under separate cover in the Secondary Containment Closure CCR (Inventum).

5. CAMP Data

Air monitoring was performed in accordance with the Community Air Monitoring Plan (CAMP) for all dates that tank work was completed including sampling, contents removal, cleaning, decommissioning and disposal. Decommissioning includes ancillary pipe removal, shearing, torch cutting, and/or contents stabilization. Daily summary graphs of particulate and volatile organic compound (VOC) monitoring are provided in the AST CCR CAMP Appendix.

Tank Work	Dates
Sampling	2/11/2021
Contents Removal	9/28/2021
Cleaning	9/28/2021 – 10/1/2021
Decommissioning	12/1/2021
Disposal	12/3/2021, 1/16/2023

Additional Notes:

None.

6. Attachments

1. Attachment A – Analytical Tables of tank contents for disposal profiling.
2. Attachment B – Photographic Log includes original, color photographs of the closure process.
3. Attachment C – Waste Manifests.
4. Attachment D – Laboratory Reports.

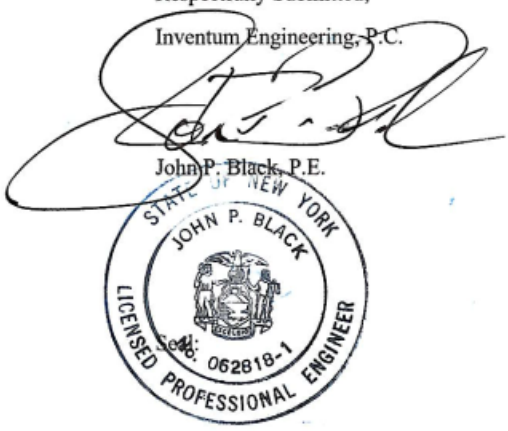
Engineering Certification

I, John P. Black, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Tank Management and Closure Construction Completion Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and DER Green Remediation (DER-31) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Respectfully Submitted,

Inventum Engineering, P.C.

John P. Black, P.E.



Date: 8.18.2025

License No: 062818.1

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Attachment A – Analytical Tables

Table 1
Tank Management & Closure CCR
ST02 Analytical Results
Riverview Innovation & Technology Campus, Inc.
Town of Tonawanda, New York

Analytes		Sample ID:	TK-SD-ST02-0211	
		Sample Date:	2/11/2021	
		Lab Report Number(s):	R2101321, R2101322	
		Contents:	White Crystaline Solid	
		Hazardous Waste Code(s):	None	
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
VOCs SW8260C				
1,1,1-Trichloroethane (TCA)		ug/kg	<1.7	U
1,1,2,2-Tetrachloroethane		ug/kg	<3.7	U
1,1,2-Trichloroethane		ug/kg	<1.7	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/kg	<1.7	U
1,1-Dichloroethane		ug/kg	<1.7	U
1,1-Dichloroethene		ug/kg	<2.5	U
1,2,3-Trichlorobenzene		ug/kg	<4.4	U
1,2,4-Trichlorobenzene		ug/kg	<3.5	U
1,2-Dibromo-3-Chloropropane		ug/kg	<6.3	U
1,2-Dibromoethane (Ethylene Dibromide)		ug/kg	<1.7	U
1,2-Dichlorobenzene		ug/kg	<1.7	U
1,2-Dichloroethane		ug/kg	<1.7	U
1,2-Dichloropropane		ug/kg	<1.7	U
1,3-Dichlorobenzene		ug/kg	<1.7	U
1,4-Dichlorobenzene		ug/kg	<1.9	U
1,4-Dioxane (P-Dioxane)		ug/kg	<170	U
Methyl Ethyl Ketone (2-Butanone)		ug/kg	<17	U
2-Hexanone		ug/kg	<3.0	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		ug/kg	<2.0	U
Acetone		ug/kg	**47**	
Benzene		ug/kg	**13**	J
Bromochloromethane		ug/kg	<1.7	U
Bromodichloromethane		ug/kg	<1.7	U
Bromoform		ug/kg	<4.2	U
Bromomethane		ug/kg	<18	U
Carbon Disulfide		ug/kg	<2.5	U
Carbon Tetrachloride		ug/kg	<2.2	U
Chlorobenzene		ug/kg	<1.7	U
Chloroethane		ug/kg	<3.5	U
Chloroform		ug/kg	<1.7	U
Chloromethane		ug/kg	<12	U
Cyclohexane		ug/kg	<2.2	U
Dibromochloromethane		ug/kg	<1.7	U
Dichlorodifluoromethane		ug/kg	<2.8	U
Methylene Chloride		ug/kg	<24	U
Ethylbenzene		ug/kg	<1.7	U
Isopropylbenzene (Cumene)		ug/kg	<1.7	U
Methyl Acetate		ug/kg	<7.0	U
Tert-Butyl Methyl Ether		ug/kg	<1.7	U
Methylcyclohexane		ug/kg	<2.6	U

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	Lab Report Number(s):		R2101321, R2101322	
	Contents:		White Crystaline Solid	
	Hazardous Waste Code(s):		None	
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
Styrene		ug/kg	<1.7	U
Tetrachloroethylene (PCE)		ug/kg	<2.0	U
Toluene		ug/kg	**12**	J
Trichloroethylene (TCE)		ug/kg	<1.9	U
Trichlorofluoromethane		ug/kg	<2.2	U
Vinyl Chloride		ug/kg	<3.9	U
Cis-1,2-Dichloroethylene		ug/kg	<1.7	U
Cis-1,3-Dichloropropene		ug/kg	<1.7	U
m,p-Xylene		ug/kg	**12**	J
O-Xylene (1,2-Dimethylbenzene)		ug/kg	**3.3**	J
Trans-1,2-Dichloroethene		ug/kg	<1.7	U
Trans-1,3-Dichloropropene		ug/kg	<1.7	U
SVOCs SW8270D				
1,2,4,5-Tetrachlorobenzene		ug/kg	<570	U
2,3,4,6-Tetrachlorophenol		ug/kg	<890	U
2,4,5-Trichlorophenol		ug/kg	<630	U
2,4,6-Trichlorophenol		ug/kg	<570	U
2,4-Dichlorophenol		ug/kg	<500	U
2,4-Dimethylphenol		ug/kg	<460	U
2,4-Dinitrophenol		ug/kg	<4400	U
2,4-Dinitrotoluene		ug/kg	<990	U
2,6-Dinitrotoluene		ug/kg	<560	U
2-Chloronaphthalene		ug/kg	<520	U
2-Chlorophenol		ug/kg	<430	U
2-Methylnaphthalene		ug/kg	<430	U
2-Methylphenol (O-Cresol)		ug/kg	<530	U
2-Nitroaniline		ug/kg	<610	U
2-Nitrophenol		ug/kg	<600	U
3,3'-Dichlorobenzidine		ug/kg	<290	U
Cresols, M & P		ug/kg	<490	U
3-Nitroaniline		ug/kg	<520	U
4,6-Dinitro-2-Methylphenol		ug/kg	<1500	U
4-Bromophenyl Phenyl Ether		ug/kg	<680	U
4-Chloro-3-Methylphenol		ug/kg	<520	U
4-Chloroaniline		ug/kg	<440	U
4-Chlorophenyl Phenyl Ether		ug/kg	<550	U
4-Nitroaniline		ug/kg	<260	U
4-Nitrophenol		ug/kg	<520	U
Acenaphthene		ug/kg	<490	U
Acenaphthylene		ug/kg	<520	U

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			Contents:	White Crystaline Solid
			Hazardous Waste Code(s):	None
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
Acetophenone		ug/kg	<740	U
Anthracene		ug/kg	<430	U
Atrazine		ug/kg	<360	U
Benzo(A)Anthracene		ug/kg	<380	U
Benzaldehyde		ug/kg	<620	U
Benzo(A)Pyrene		ug/kg	<680	U
Benzo(B)Fluoranthene		ug/kg	<430	U
Benzo(G,H,I)Perylene		ug/kg	<590	U
Benzo(K)Fluoranthene		ug/kg	<420	U
Biphenyl (Diphenyl)		ug/kg	<760	U
Bis(2-Chloroisopropyl) Ether		ug/kg	<530	U
Bis(2-Chloroethoxy) Methane		ug/kg	<630	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)		ug/kg	<510	U
Bis(2-Ethylhexyl) Phthalate		ug/kg	<470	U
Benzyl Butyl Phthalate		ug/kg	<310	U
Caprolactam		ug/kg	<570	U
Carbazole		ug/kg	<420	U
Chrysene		ug/kg	<380	U
Di-N-Butyl Phthalate		ug/kg	<420	U
Di-N-Octylphthalate		ug/kg	<900	U
Dibenz(A,H)Anthracene		ug/kg	<560	U
Dibenzofuran		ug/kg	<470	U
Diethyl Phthalate		ug/kg	<460	U
Dimethyl Phthalate		ug/kg	<490	U
Fluoranthene		ug/kg	<650	U
Fluorene		ug/kg	<480	U
Hexachlorobenzene		ug/kg	<620	U
Hexachlorobutadiene		ug/kg	<440	U
Hexachlorocyclopentadiene		ug/kg	<820	U
Hexachloroethane		ug/kg	<480	U
Indeno(1,2,3-C,D)Pyrene		ug/kg	<830	U
Isophorone		ug/kg	<540	U
N-Nitrosodi-N-Propylamine		ug/kg	<790	U
N-Nitrosodiphenylamine		ug/kg	<1600	U
Naphthalene		ug/kg	<480	U
Nitrobenzene		ug/kg	<460	U
Pentachlorophenol		ug/kg	<2600	U
Phenanthrene		ug/kg	<370	U
Phenol		ug/kg	<520	U
Pyrene		ug/kg	<430	U

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		Contents:	White Crystaline Solid	
		Hazardous Waste Code(s):	None	
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
TAL Metals SW6010				
Aluminum		mg/kg	<18.1	U
Antimony		mg/kg	<0.815	U
Arsenic		mg/kg	<10.6	U
Barium		mg/kg	<2.3	U
Beryllium		mg/kg	<0.091	U
Boron (RSI*)		mg/kg	NS	
Cadmium		mg/kg	<0.362	U
Calcium		mg/kg	<48.3	U
Chromium, Total		mg/kg	**34.5**	
Cobalt		mg/kg	**1.5**	J
Copper		mg/kg	**32.4**	
Iron		mg/kg	**25400**	
Lead		mg/kg	**1.2**	J
Magnesium		mg/kg	<19.6	U
Manganese		mg/kg	**93.1**	
Molybdenum (RSI*)		mg/kg	NS	
Nickel		mg/kg	**29.3**	
Potassium		mg/kg	**252**	J
Selenium		mg/kg	**1.1**	J
Silver		mg/kg	<0.136	U
Sodium		mg/kg	**216000**	
Sulfur (RSI, 6020A)		mg/kg	NS	
Thallium		mg/kg	<0.982	U
Tin (RSI*)		mg/kg	NS	
Uranium (RSI*)		mg/kg	NS	
Vanadium		mg/kg	<1.1	U
Zinc		mg/kg	**2.5**	J
Mercury SW7471				
Mercury		mg/kg	**0.112**	
Ammonia E350.1M				
Nitrogen, Ammonia (As N)		mg/kg	<5.2	U
Cyanide SW9012B				
Cyanide		mg/kg	<0.25	U

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		Hazardous Waste Code(s):	None	
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
PCBs 8082A				
PCB-1016 (Aroclor 1016)		ug/kg	<29	U
PCB-1221 (Aroclor 1221)		ug/kg	<29	U
PCB-1232 (Aroclor 1232)		ug/kg	<29	U
PCB-1242 (Aroclor 1242)		ug/kg	<29	U
PCB-1248 (Aroclor 1248)		ug/kg	<29	U
PCB-1254 (Aroclor 1254)		ug/kg	<29	U
PCB-1260 (Aroclor 1260)		ug/kg	<29	U
Pesticides 8081B				
P,P'-DDD		ug/kg	<1.4	U
P,P'-DDE		ug/kg	<1.4	U
P,P'-DDT		ug/kg	<1.4	U
Aldrin		ug/kg	<1.4	U
Dieldrin		ug/kg	<1.4	U
Alpha Endosulfan		ug/kg	<1.4	U
Beta Endosulfan		ug/kg	<1.4	U
Endosulfan Sulfate		ug/kg	<1.4	U
Endrin		ug/kg	<1.4	U
Endrin Aldehyde		ug/kg	<1.4	U
Endrin Ketone		ug/kg	<1.4	U
Heptachlor		ug/kg	<1.4	U
Heptachlor Epoxide		ug/kg	<1.4	U
Methoxychlor		ug/kg	<1.4	U
Toxaphene		ug/kg	<32	U
Alpha Bhc (Alpha Hexachlorocyclohexane)		ug/kg	<1.4	U
cis-Chlordane		ug/kg	<1.4	U
Beta Bhc (Beta Hexachlorocyclohexane)		ug/kg	<1.4	U
Delta BHC (Delta Hexachlorocyclohexane)		ug/kg	<1.4	U
Gamma Bhc (Lindane)		ug/kg	<1.4	U
Chlordane (Technical)		ug/kg	<1.4	U
Herbicides SW8151A				
Acetic acid, (2,4,5-trichlorophenoxy)-		ug/kg	<17	U
Silvex (2,4,5-TP)		ug/kg	<15	U
2,4-D (Dichlorophenoxyacetic Acid)		ug/kg	<22	U
Dicamba		ug/kg	<11	U

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	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
TCLP VOCs - SW8260C				
1,2-Dichloroethane	500	ug/l	<4.0	
Chlorobenzene	100,000	ug/l	<4.0	
Tetrachloroethylene (PCE)	700	ug/l	<8.0	
Carbon Tetrachloride	500	ug/l	<4.0	
Chloroform	6,000	ug/l	<4.0	
Benzene	500	ug/l	<8.0	
Vinyl Chloride	200	ug/l	<4.0	
1,1-Dichloroethene	700	ug/l	<4.0	
Methyl Ethyl Ketone (2-Butanone)	200,000	ug/l	<60.0	
Trichloroethylene (TCE)	500	ug/l	<4.0	
TCLP SVOCs - SW8270D				
1,4-Dichlorobenzene	7,500	ug/l	<4.8	U
2,4,5-Trichlorophenol	400,000	ug/l	<4.4	U
2,4,6-Trichlorophenol	2,000	ug/l	<5.6	U
2,4-Dinitrotoluene	130	ug/l	<9.6	U
2-Methylphenol (O-Cresol)	200,000	ug/l	<4.0	U
Cresols, M & P	200,000	ug/l	<4.8	U
Cresols (as m,p,0-Cresol)	-	ug/l	NS	
Hexachlorobenzene	130	ug/l	<6.4	U
Hexachlorobutadiene	500	ug/l	<4.0	U
Hexachloroethane	3,000	ug/l	<4.4	U
Nitrobenzene	2,000	ug/l	<6.0	U
Pentachlorophenol	100,000	ug/l	<39	U
Pyridine	5,000	ug/l	<4.0	U
TCLP Metals - SW6010				
Arsenic	5,000	ug/l	**10.1**	J
Barium	100,000	ug/l	<1000	U
Cadmium	1,000	ug/l	<100	U
Chromium, Total	5,000	ug/l	**0.8**	J
Lead	5,000	ug/l	<100	U
Selenium	1,000	ug/l	**11.1**	J
Silver	5,000	ug/l	<100	U
TCLP Mercury- SW7470				
Mercury	200	ug/l	**0.092**	J

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			Hazardous Waste Code(s):	None
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
TCLP Pesticides - 8081B				
Chlordane	30	ug/l	<0.13	U
Endrin	20	ug/l	<0.020	U
Gamma Bhc (Lindane)	400	ug/l	<0.020	U
Heptachlor	8	ug/l	<0.020	U
Heptachlor Epoxide	8	ug/l	<0.020	U
Methoxychlor	10,000	ug/l	<0.020	U
Toxaphene	500	ug/l	<0.50	U
TCLP Herbicides- SW8151A				
2,4-D (Dichlorophenoxyacetic Acid)	10,000	ug/l	<0.48	U
Silvex (2,4,5-TP)	1,000	ug/l	<0.48	U
SW9045D				
pH	<2, >=12.5	ph units	**10.88**	
Ignitability 1010MOD				
Ignitability		deg f	Not Ignitable	
SW1010				
Flash Point	<140	deg f	NS	
Reactive Cyanide SW7.3.3.2				
Reactive Cyanide		mg/kg	<0.011	
Reactive Sulfide SW7.3.4.2				
Reactive Sulfide		mg/kg	**4.4**	J
Total Solids A2540G				
Moisture, Percent		%	**39.8**	
Total Solids		%	**60.2**	

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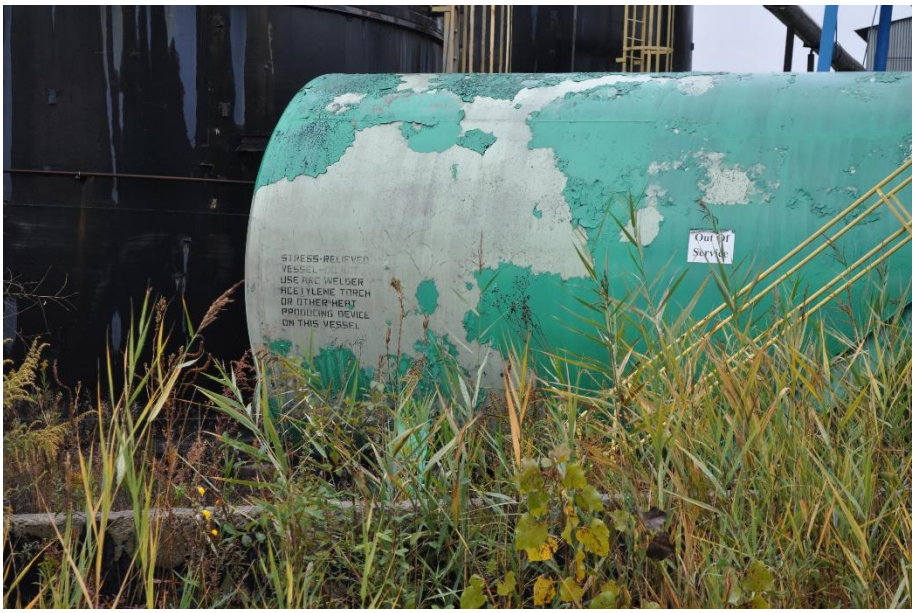
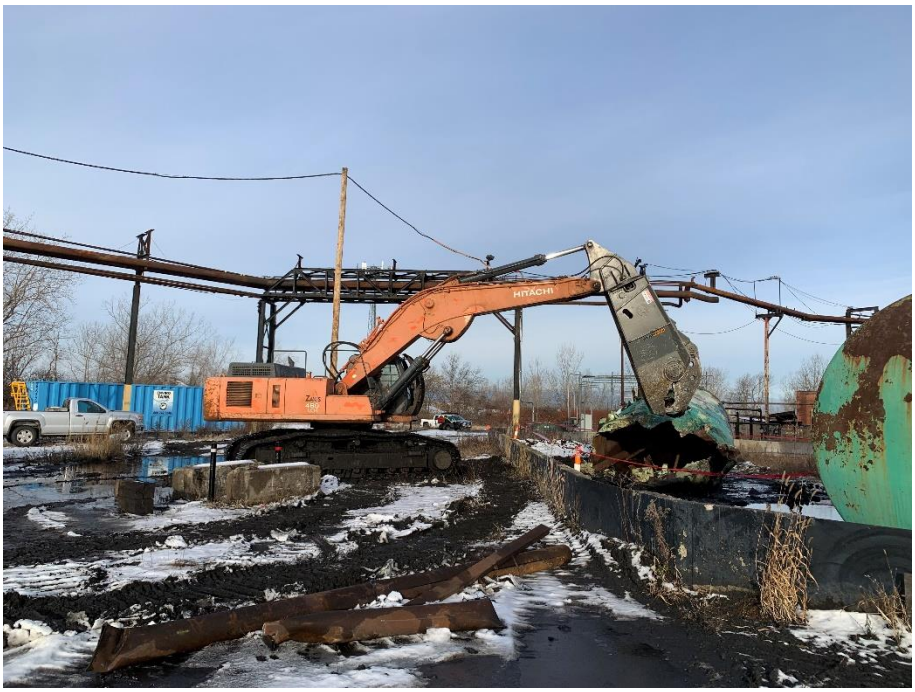
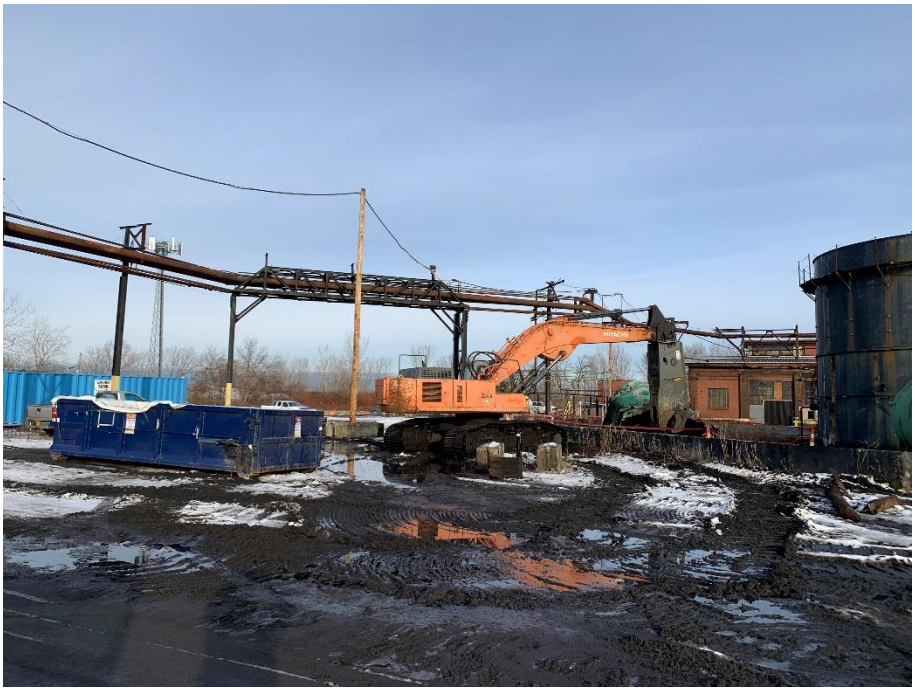
		Hazardous Waste Code(s):	None	
	TCLP Standards (ug/L)	Units	ST02 - West Weak Ammonia Liquor Area	
BTU/Higher Heat Value				
BTU		BTU/lb	NS	
Notes:				
NS: Not Sampled				
NA: Sample collected, but not analyzed due to matrix interference				
"<": Analyzed for but detected at or above the quantitation limit				
J: Analyte detected below quantitation limit				
C: Continuing Calibration Verification (CCV) below acceptable limits				
S: Lab Control Sample (LCS) Spike recovery is below acceptable limits				
P: Concentration >40% difference between the two GC columns.				
L: Laboratory Control Sample recovery outside accepted QC limits.				
D: Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibratio				
(RSI)*: Additional metals analytes requested by disposal facility RSI				
Bold: Analyte was detected				
Bold with red highlight: Analyte exceeds TCLP standards or is characteristically hazardous for corrosivity, flammabili				

Attachment B – Photographic Log

Client Name: RITC	Date Photo was Taken: 10/8/2019	Project: RITC
Photo No. 1		
Direction Photo Taken: View is south.		
Description: ST02 was located in the Weak Ammonia Liquor Secondary Containment area.		

Client Name: RITC	Date Photo was Taken: 10/8/2019	Project: RITC
Photo No. 2		
Direction Photo Taken: View is north.		
Description: ST02 was located in the Weak Ammonia Liquor Secondary Containment area and is outlined in yellow on the left.		

Client Name: RITC	Date Photo was Taken: 10/16/2019	Project: RITC
Photo No. 3 **Direction Photo Taken:** View is east. **Description:** The west side of ST02. ST02 had an asbestos containing green coating in poor condition.		
Client Name: RITC	**Date Photo was Taken:** 12/1/2021	**Project:** RITC
Photo No. 4 **Direction Photo Taken:** View is west. **Description:** The tank shell of ST02 is sheared to be disposed as ACM.		

Client Name: RITC	Date Photo was Taken: 12/1/2022	Project: RITC
Photo No. 5 **Direction Photo Taken:** View is west. **Description:** The tank shell of ST02 is sheared to be disposed as ACM.		

Client Name: RITC	Date Photo was Taken: 12/1/2022	Project: RITC
Photo No. 6 **Direction Photo Taken:** View is northeast. **Description:** ST02 has been removed.		

Attachment C – Waste Manifests

MODERN Landfill NON-HAZARDOUS WASTE & ASBESTOS WASTE SHIPMENT RECORDS

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

0018252

Section I GENERATOR (Generator completes Section I, a-q)

a: Generator's US EPA ID Number:	b: Manifest Document Number: 0018252
c: Generator's Name and Location: Riverview Innovation Technology Campus 3875 River Road Tonawanda, New York 14150 d: Generators Phone: 716-560-3006	e: Generator's Mailing Address: Riverview Innovation Technology Campus 140 Lee Street, Suite 200 Buffalo, New York 14150 f: Phone: 716-818-3390
If owner of the generating facility differs from the generator, provide: g. Owner's Name:	h. Owner's Phone:

i. Waste Profile #:	j. Exp. Date	k. Waste Shipping Name and Description	l. Containers No.	l. Containers Type	m. Total Quantity	n. Unit Wt/Vol
M22-3534	12/23/23	Coal breeze/dust/sediments/residuals SIO2	1	CM	5 EST	Tons

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

o. Generator Authorized Agent Name (Print)	p. Signature	q. Date
Kirsten Collisan on behalf of RITC	KC on behalf of RITC	01/16/23

Section II TRANSPORTER (Generator completes Sec. II, a-b; Transporter completes Sec. II, c-e)

a: Transporter's Name and Address:
Modern Disposal Services
4746 Model City Road
Model City, New York 14107
b: Phone: 716-754-8226

c. Transporter Authorized Agent Name (Print)	d. Signature	e. Date
Kevin Swan	Kevin Swan	1-16-23

Section III DESTINATION (Generator completes Sec. III, a-c; Destination Site completes Sec. III, d-g)

a: Disposal Facility and Site Address: Modern Landfill, Inc. 1445 Pletcher Rd. Model City, NY 14107 b: Phone: 716-754-8226	c: US EPA Number	d: Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

e: Authorized Agent Name (Print)	f. Signature	g. Date
Michelle Petrea	Michelle Petrea	1/16/23

Section IV ASBESTOS (Generator completes Sec. IV, a-d; Operator completes Sec. IV, e-g)

a: Operator's Name and Address: b: Phone:	c: Special Handling Instructions and Additional Information:
d: Friable, Non-Friable or Both:	e: Percentage Friable/NonFriable: 0% Friable and 0% Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

e. Operator's Name and Title (Print)	f. Signature	g. Date

*Operator refers to the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.

DESTINATION RETURN

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1003279031
Date: 1/16/2023
Time: 12:54:36 - 13:18:56

******** Reprinted Ticket ********

Scale
Gross: 38700 POU In Scale 1-INBOU
Tare: 34220 POU Out Scale 3-CLAY(
Net: 4480 POU

Truck: 2861-30
Customer: 0250310002/MODERN DISPOSAL ROI
Carrier: MDS-001/MODERN DISPOSAL
Driver: KEVINSWAN/KEVINSWAN
Truck Type: RO30
Route: M0112/MODERN ROLL OFF 12
Profile: M22-3534/RIVERVIEW INNOVATIOI
WO: 0003787893
Manifest: 18252
Generator: 01698-001/MODERN DISPOSAL INC
PO: Q
Service Site: 0005730122 OSC @ TONAWANDA COKE
Comment:

Origin	Materials & Services	Quantity	Unit
141600/Tonawanda, City Of	DC Industrial Waste - General	2.24	TON

Driver: _____

Weighmaster: Michelle Petrea

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1003279031
Date: 1/16/2023
Time: 12:54:36 - 13:18:56

******** Reprinted Ticket ********

Scale
Gross: 38700 POUIn Scale 1-INBOU
Tare: 34220 POUOut Scale 3-CLAY(
Net: 4480 POU

Truck: 2861-30
Customer: 0250310002/MODERN DISPOSAL ROI
Carrier: MDS-001/MODERN DISPOSAL
Driver: KEVINSWAN/KEVINSWAN
Truck Type: RO30
Route: M0112/MODERN ROLL OFF 12
Profile: M22-3534/RIVERVIEW INNOVATI(
WO: 0003787893
Manifest: 18252
Generator: 01698-001/MODERN DISPOSAL INC
PO: Q
Service Site: 0005730122 OSC @ TONAWANDA COKE
Comment:

Origin	Materials & Services	Quantity	Unit
141600/Tonawanda, City Of	DC Industrial Waste - General	2.24	TON

Driver: _____

Weighmaster: Michelle Petrea

MODERN Landfill NON-HAZARDOUS WASTE & ASBESTOS WASTE SHIPMENT RECORDS

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

0007940

Section I GENERATOR (Generator completes Section I, a-q)

a: Generator's US EPA ID Number:	b: Manifest Document Number: 0007940
c: Generator's Name and Location: Riverview Innovation Technology Campus 3875 River Road Tonawanda, New York 14150 d: Generators Phone:	e: Generator's Mailing Address: Riverview Innovation Technology Campus 140 Lee Street, Suite 200 Buffalo, New York 14150 f: Phone: 716-818-3390
If owner of the generating facility differs from the generator, provide: g. Owner's Name:	h. Owner's Phone:

i. Waste Profile #:	j. Exp. Date	k. Waste Shipping Name and Description	l. Containers No.	l. Containers Type	m. Total Quantity	n. Unit Wt/Vol
M21-3267	1/12/23	Non-Friable Asbestos ST02	1	roll off	20	Tons CY

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

o. Generator Authorized Agent Name (Print)	p. Signature	q. Date
Kevin Colligan on behalf of RiTC	[signature] on behalf of RiTC	12/6/21

Section II TRANSPORTER (Generator completes Sec. II, a-b; Transporter completes Sec. II, c-e)

a: Transporter's Name and Address: Modern Disposal 4746 Model City Road Model City, NY 14107 b: Phone: 716-754-8226		
Michael Gearhart	Michael Gearhart	12-03-21
c. Generator Authorized Agent Name (Print)	d. Signature	e. Date

Section III DESTINATION (Generator completes Sec. III, a-c; Destination Site completes Sec. III, d-g)

a: Disposal Facility and Site Address: Modern Landfill, Inc. 1445 Pletcher Rd. Model City, NY 14107 b: Phone: 716-754-8226	c: US EPA Number	d: Discrepancy Indication Space:
I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.		
e: Authorized Agent Name (Print)	f. Signature	q. Date

Section IV ASBESTOS (Generator completes Sec. IV, a-d; Operator completes Sec. IV, e-g)

a: Operator's Name and Address: Precision Environmental Company 5500 Old Brecksville Road Independence, Ohio 44131 b: Phone:	c: Special Handling Instructions and Additional Information: Must be buried.
d: Friable, Non-Friable or Both: Non-Friable	e: Percentage Friable/NonFriable: 0% Friable and 100% Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

e. Operator's Name and Title (Print)	f. Signature	g. Date
		12/6/21

*Operator refers to the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.

GENERATOR RETAIN

MODERN NON-HAZARDOUS WASTE / ASBESTOS WASTE SHIPMENT RECORDS
Landfill

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

0007940

Section I GENERATOR (Generator completes Section I, a-q)

a: Generator's US EPA ID Number:	b: Manifest Document Number: 0007940
c: Generator's Name and Location: Riverview Innovation Technology Campus 3875 River Road Tonawanda, New York 14150 d: Generators Phone:	e: Generator's Mailing Address: Riverview Innovation Technology Campus 140 Lee Street, Suite 200 Buffalo, New York 14150 f: Phone: 716-818-3390
If owner of the generating facility differs from the generator, provide: g. Owner's Name:	h. Owner's Phone:

i. Waste Profile #:	j. Exp. Date	k. Waste Shipping Name and Description	l. Containers No.	l. Containers Type	m. Total Quantity	n. Unit Wt/Vol
M21-3267	1/12/23	Non-Friable Asbestos ST02	1	roll off	20	~~Tons~~ CY

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a ~~hazardous~~ waste as defined by 40 CFR 261.

o. Generator Authorized Agent Name (Print)	p. Signature	q. Date
Kirsten Colligan on behalf of RITC	KC on behalf of RITC	12/03/21

Section II TRANSPORTER (Generator completes Sec. II, a-b; Transporter completes Sec. II, c-e)

a: Transporter's Name and Address:
Modern Disposal
4746 Model City Road
Model City, NY 14107
b: Phone: 716-754-8226

c. Generator Authorized Agent Name (Print)	d. Signature	e. Date
Michael Gorbett	Michael Gorbach	12-03-21

Section III DESTINATION (Generator completes Sec. III, a-c; Destination Site completes Sec. III, d-g)

a: Disposal Facility and Site Address: Modern Landfill, Inc. 1445 Pletcher Rd. Model City, NY 14107 b: Phone: 716-754-8226	c: US EPA Number	d: Discrepancy Indication Space:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

e: Authorized Agent Name (Print)	f. Signature	q. Date
Dawn Gross	DGross	12/3/21

Section IV ASBESTOS (Generator completes Sec. IV, a-d; Operator completes Sec. IV, e-g)

a: Operator's Name and Address: Precision Environmental Company 5500 Old Brecksville Road Independence, Ohio 44131 b: Phone:	c: Special Handling Instructions and Additional Information: Must be buried.
d: Friable, Non-Friable or Both: Non-Friable	e: Percentage Friable/NonFriable: 0% Friable and 100% Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

e. Operator's Name and Title (Print)	f. Signature	g. Date
Ryan Brown / Super		12/03/21

*Operator refers to the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.

DESTINATION RETURN

MODERN Corporation

1445 Pletcher Road
Model City, NY 14107
(716) 754-8226

Ticket: 1003141476
Date: 12/3/2021
Time: 08:43:48 - 09:14:13
Scale

Gross: 52260 POU In Scale 1-INBOI
Tare: 40380 POU Out Scale 2-OUTB
Net: 11880 POU

Truck: 2469-20
Customer: 0250310002/MODERN DISPOSAL ROI
Carrier: MDS-001/MODERN DISPOSAL
Driver: MIKEGORBA/General

Truck Type: RO20
Route: M0102/MODERN ROLL OFF 02
Profile: M21-3267/RIVERVIEW INN.TECH.C.

WO: 0003546966
Manifest: 7940

Generator: 0250310002/MODERN DISPOSAL ROI
Service Site: 0609620001 GREEN ROCK STRATEGIES LLC
PO: .
Comment:

Origin	Materials & Services	Quantity	Unit
141600/Tonawanda, City Of	DC Non Friable Asbestos	5.94	TON

Driver: Gorbach

Weighmaster: Michelle Petrea

Attachment D – Laboratory Reports

March 11, 2021 Service Request No:R2101321

Mr. John Black
Inventum Engineering
481 Carlisle Drive
Herndon, VA 20170

Laboratory Results for: RITC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory February 12, 2021
For your reference, these analyses have been assigned our service request number **R2101321.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Received: 02/12/2021

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two soil samples were received for analysis at ALS Environmental on 02/12/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270D, 02/19/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
Method 8270D, 02/25/2021: The control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Semivoa GC:

Method 8081B, 03/03/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B, R2101321-001: The control limits for one or more surrogates in the sample are not applicable. The chromatogram indicated the presence of target/non-target background components that masked the surrogate, which prevented adequate resolution for quantitation. No corrective action was appropriate.

Method 8081, Initial attempt to remove sulfur from the extract with TBA was insufficient. Samples which did not meet confirmation limits were further cleaned with TBA and reanalyzed. Only the analyte(s) affected by the sulfur are reported in the reanalysis.

Method 8081B, 714912: The control limits for one or more surrogates in the sample are not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the Method Reporting Limit (MRL). No further corrective action was appropriate.

Method 8082A, 02/18/2021: The control limits were exceeded for one or more surrogates in one or more QC samples associated with samples in this report. The associated recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier is flagged accordingly. No further corrective action was appropriate.

Method 8082A, 02/18/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8082A, 02/26/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and

Approved by Meghan Pedro Date 03/11/2021

no further corrective action was taken.

Method 8082A, 714398s: The control limits were exceeded for one or more surrogates due to matrix interferences. A re-extraction and reanalysis was performed, but produced similar results. No further corrective action was required.

Method 8151A, 02/26/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8151A, 714412: The control limits were exceeded for one or more surrogates in the sample(s). Since the exceedance may indicate a potential bias in the analytical batch, all associated field samples were re-extracted and reanalyzed. The surrogates met control limits for the reanalysis. Since the results for the field samples were comparable for both determinations, the exceedance in the initial analysis was likely restricted to the surrogate recovery. Therefore, the results from the original analysis are reported and flagged.

Method 8151A, 02/25/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8151A, r2101321-001: The control limits were exceeded for one or more surrogates due to matrix interferences. Due to the presence of non-target background components that prevented adequate resolution of the surrogate, accurate quantitation was not possible. No further corrective action was appropriate.

Method 8151A, 714182: The Method Reporting Limit (MRL) was elevated due to elevated baseline of sample on original run straight.

Method 8151A, 02/23/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8151A, 02/23/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Metals:

Method 6010C, R2101321-001: Sample(s) required dilution due to the nature of the matrix. The reporting limits are adjusted to reflect the dilution.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 8260C: soil samples included in this report were received in jars and not collected using one of the EPA method 5035A low level options. In accordance with the NYSDOH technical notice of October 2012 all results or reporting limits <200 ug/kg should be considered as estimated due to potential low bias.
Method 8260C, 02/19/2021: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Approved by Meghan Pedro Date 03/11/2021

Method 8260C, 02/19/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Approved by Meghan Pedro Date 03/11/2021

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Inventum Engineering **Service Request:**R2101321
Project: RITC Tanks

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2101321-001	TK-SD-PT12-0211	2/11/2021	1400
R2101321-002	TK-SD-ST02-0211	2/11/2021	1100

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

003771

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE _____ OF _____

Project Name: RITC TANKS	Project Number:
Project Manager: JOHN BLACK	Report CC:
Company/Address: INVENTUM ENGINEERING, 481 CARLISLE DR. #202, HERNDON, VA 20170	
Phone #: 7717767761	Email: john.black@inventumeng.com
Sampler's Signature:	Sampler's Printed Name: J. BLACK

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GCMS VOAs 8260 • 624 • CLP	GCMS SVOAs 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES 8081 • 608	PCBs 8082 • 608	METALS, TOTAL (List in comments below) TAL	METALS, (List in comments below)	FLW TCLP	CYANIDE	Ammonia	CORROSIVITY	REACTIVES	FLAMMABLES	PCBs	REMARKS/ ALTERNATE DESCRIPTION
TK-LQ-PT04-0211		2/11/21	1:00	LQ	8	1	1		1	1	1	1	1	1	1	1	1	1	1	LIGHT OIL BTEX
TK-SD-PT12-0211		2/11/21	2:00	SD	8	1	1		1	1	1	1	1	1	1	1	1	1	1	
TK-LQ-ST01-0211		2/10/21	10:45	LQ	8	1	1		1	1	1	1	1	1	1	1	1	1	1	
TK-SD-ST02-0211		2/10/21	11:00	SD	8	1	1		1	1	1	1	1	1	1	1	1	1	1	CAUSTICS

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: NY

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
✓ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: 2/22/21

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
✓ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data

NYSDEC & HONEYWELL
Edata ✓ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature: Keith James	Signature: Keith James	Signature	Signature	Signature
Printed Name: JOHN BLACK	Printed Name: Keith James	Printed Name: Keith James	Printed Name	Printed Name	
Firm: INVENTUM	Firm: A-LS	Firm: A-LS	Firm	Firm	
Date/Time: 2/12/21 10AM	Date/Time: 2-12-21 11:07	Date/Time: 2-12-21 15:30	Date/Time: 2/12/21 1530	Date/Time	

R2101321 5
Inventum Engineering
RITC Tanks

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R2101321 5
Inventum Engineering
RITC Tanks

Project/Client Inventum Folder Number

Cooler received on 2/12/21 by: @

COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: (Wet Ice) **Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: (Bulk) Encore 5035set NA	

3. Temperature Readings Date: 2/12/21 Time: 1535 ID: IR#7 (IR#10) From: ~~Temp Blank~~ (~~Sample Bottle~~)

Observed Temp (°C)	9.8						
Within 0-6°C?	Y (N)	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-102 by @ on 2/12/21 at 1540
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 2/13/21 Time: 0925 by: dlw

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO ~~N/A~~
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated ~~N/A~~ (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 081720-1Tw

Explain all Discrepancies/ Other Comments:

HPROD	~~BULK~~
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: JL

PC Secondary Review: JW

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
350.1M	Soil	Ammonia as Nitrogen, undistilled
ALS SOP	Soil	Total Solids

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks/

Sample Name: TK-SD-PT12-0211 **Date Collected:** 02/11/21
Lab Code: R2101321-001 **Date Received:** 02/12/21
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
350.1M	MROGERSON	SMEDBURY
6010C	AKONZEL	KMCLAEN
7471B	AKONZEL	AKONZEL
8081B	KSERCU	AFELSER
8082A	KSERCU	BALLGEIER
8151A	JMISIUREWICZ	BALLGEIER
8260C		FNAEGLER
8270D	KSERCU	JMISIUREWICZ
9012B	MROGERSON	GNITAJOUPPI
9045D		SMEDBURY
ALS SOP		KAWONG

Sample Name: TK-SD-PT12-0211 **Date Collected:** 02/11/21
Lab Code: R2101321-001.R01 **Date Received:** 02/12/21
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
8081B	KSERCU	BALLGEIER
8082A	KSERCU	BALLGEIER
8270D	KSERCU	JMISIUREWICZ

Sample Name: TK-SD-ST02-0211 **Date Collected:** 02/11/21
Lab Code: R2101321-002 **Date Received:** 02/12/21
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
350.1M	MROGERSON	SMEDBURY
6010C	AKONZEL	KMCLAEN
7471B	AKONZEL	AKONZEL
8081B	KSERCU	BALLGEIER
8082A	KSERCU	BALLGEIER
8151A	KSERCU	BALLGEIER

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks/		

Sample Name:	TK-SD-ST02-0211	**Date Collected:**	02/11/21
Lab Code:	R2101321-002	**Date Received:**	02/12/21
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	KSERCU	JMISIUREWICZ
9012B	MROGERSON	GNITAJOUPPI
9045D		SMEDBURY
ALS SOP		KAWONG

Sample Name:	TK-SD-ST02-0211	**Date Collected:**	02/11/21
Lab Code:	R2101321-002.R01	**Date Received:**	02/12/21
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
8151A	JMISIUREWICZ	BALLGEIER

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	320	U	7900	320	1330	02/19/21 17:34	
1,1,2,2-Tetrachloroethane	700	U	7900	700	1330	02/19/21 17:34	
1,1,2-Trichloroethane	320	U	7900	320	1330	02/19/21 17:34	
1,1,2-Trichloro-1,2,2-trifluoroethane	320	U	7900	320	1330	02/19/21 17:34	
1,1-Dichloroethane (1,1-DCA)	320	U	7900	320	1330	02/19/21 17:34	
1,1-Dichloroethene (1,1-DCE)	470	U	7900	470	1330	02/19/21 17:34	
1,2,3-Trichlorobenzene	830	U	7900	830	1330	02/19/21 17:34	
1,2,4-Trichlorobenzene	670	U	7900	670	1330	02/19/21 17:34	
1,2-Dibromo-3-chloropropane (DBCP)	1200	U	7900	1200	1330	02/19/21 17:34	
1,2-Dibromoethane	320	U	7900	320	1330	02/19/21 17:34	
1,2-Dichlorobenzene	320	U	7900	320	1330	02/19/21 17:34	
1,2-Dichloroethane	320	U	7900	320	1330	02/19/21 17:34	
1,2-Dichloropropane	320	U	7900	320	1330	02/19/21 17:34	
1,3-Dichlorobenzene	320	U	7900	320	1330	02/19/21 17:34	
1,4-Dichlorobenzene	350	U	7900	350	1330	02/19/21 17:34	
1,4-Dioxane	32000	U	160000	32000	1330	02/19/21 17:34	
2-Butanone (MEK)	3200	U	7900	3200	1330	02/19/21 17:34	
2-Hexanone	580	U	7900	580	1330	02/19/21 17:34	
4-Methyl-2-pentanone	370	U	7900	370	1330	02/19/21 17:34	
Acetone	7500	U	7900	7500	1330	02/19/21 17:34	
Benzene	**17000**		7900	320	1330	02/19/21 17:34	
Bromochloromethane	320	U	7900	320	1330	02/19/21 17:34	
Bromodichloromethane	320	U	7900	320	1330	02/19/21 17:34	
Bromoform	800	U	7900	800	1330	02/19/21 17:34	
Bromomethane	3400	U	7900	3400	1330	02/19/21 17:34	
Carbon Disulfide	470	U	7900	470	1330	02/19/21 17:34	
Carbon Tetrachloride	420	U	7900	420	1330	02/19/21 17:34	
Chlorobenzene	320	U	7900	320	1330	02/19/21 17:34	
Chloroethane	660	U	7900	660	1330	02/19/21 17:34	
Chloroform	320	U	7900	320	1330	02/19/21 17:34	
Chloromethane	2300	U	7900	2300	1330	02/19/21 17:34	
Cyclohexane	420	U	7900	420	1330	02/19/21 17:34	
Dibromochloromethane	320	U	7900	320	1330	02/19/21 17:34	
Dichlorodifluoromethane (CFC 12)	530	U	7900	530	1330	02/19/21 17:34	
Dichloromethane	4500	U	7900	4500	1330	02/19/21 17:34	
Ethylbenzene	**960**	**J**	7900	320	1330	02/19/21 17:34	
Isopropylbenzene (Cumene)	320	U	7900	320	1330	02/19/21 17:34	
Methyl Acetate	1400	U	7900	1400	1330	02/19/21 17:34	
Methyl tert-Butyl Ether	320	U	7900	320	1330	02/19/21 17:34	
Methylcyclohexane	500	U	7900	500	1330	02/19/21 17:34	
Styrene	**1600**	**J**	7900	320	1330	02/19/21 17:34	
Tetrachloroethene (PCE)	370	U	7900	370	1330	02/19/21 17:34	
Toluene	**21000**		7900	320	1330	02/19/21 17:34	

ALS Group USA, Corp.
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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	350	U	7900	350	1330	02/19/21 17:34	
Trichlorofluoromethane (CFC 11)	420	U	7900	420	1330	02/19/21 17:34	
Vinyl Chloride	740	U	7900	740	1330	02/19/21 17:34	
cis-1,2-Dichloroethene	320	U	7900	320	1330	02/19/21 17:34	
cis-1,3-Dichloropropene	320	U	7900	320	1330	02/19/21 17:34	
m,p-Xylenes	**28000**		16000	590	1330	02/19/21 17:34	
o-Xylene	**7700**	**J**	7900	320	1330	02/19/21 17:34	
trans-1,2-Dichloroethene	320	U	7900	320	1330	02/19/21 17:34	
trans-1,3-Dichloropropene	320	U	7900	320	1330	02/19/21 17:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	31 - 154	02/19/21 17:34	
Dibromofluoromethane	93	63 - 138	02/19/21 17:34	
Toluene-d8	100	66 - 138	02/19/21 17:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1.7 U	42	1.7	5	02/15/21 22:43	
1,1,2,2-Tetrachloroethane	3.7 U	42	3.7	5	02/15/21 22:43	
1,1,2-Trichloroethane	1.7 U	42	1.7	5	02/15/21 22:43	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.7 U	42	1.7	5	02/15/21 22:43	
1,1-Dichloroethane (1,1-DCA)	1.7 U	42	1.7	5	02/15/21 22:43	
1,1-Dichloroethene (1,1-DCE)	2.5 U	42	2.5	5	02/15/21 22:43	
1,2,3-Trichlorobenzene	4.4 U	42	4.4	5	02/15/21 22:43	
1,2,4-Trichlorobenzene	3.5 U	42	3.5	5	02/15/21 22:43	
1,2-Dibromo-3-chloropropane (DBCP)	6.3 U	42	6.3	5	02/15/21 22:43	
1,2-Dibromoethane	1.7 U	42	1.7	5	02/15/21 22:43	
1,2-Dichlorobenzene	1.7 U	42	1.7	5	02/15/21 22:43	
1,2-Dichloroethane	1.7 U	42	1.7	5	02/15/21 22:43	
1,2-Dichloropropane	1.7 U	42	1.7	5	02/15/21 22:43	
1,3-Dichlorobenzene	1.7 U	42	1.7	5	02/15/21 22:43	
1,4-Dichlorobenzene	1.9 U	42	1.9	5	02/15/21 22:43	
1,4-Dioxane	170 U	830	170	5	02/15/21 22:43	
2-Butanone (MEK)	17 U	42	17	5	02/15/21 22:43	
2-Hexanone	3.0 U	42	3.0	5	02/15/21 22:43	
4-Methyl-2-pentanone	2.0 U	42	2.0	5	02/15/21 22:43	
Acetone	**47**	42	40	5	02/15/21 22:43	
Benzene	**13 J**	42	1.7	5	02/15/21 22:43	
Bromochloromethane	1.7 U	42	1.7	5	02/15/21 22:43	
Bromodichloromethane	1.7 U	42	1.7	5	02/15/21 22:43	
Bromoform	4.2 U	42	4.2	5	02/15/21 22:43	
Bromomethane	18 U	42	18	5	02/15/21 22:43	
Carbon Disulfide	2.5 U	42	2.5	5	02/15/21 22:43	
Carbon Tetrachloride	2.2 U	42	2.2	5	02/15/21 22:43	
Chlorobenzene	1.7 U	42	1.7	5	02/15/21 22:43	
Chloroethane	3.5 U	42	3.5	5	02/15/21 22:43	
Chloroform	1.7 U	42	1.7	5	02/15/21 22:43	
Chloromethane	12 U	42	12	5	02/15/21 22:43	
Cyclohexane	2.2 U	42	2.2	5	02/15/21 22:43	
Dibromochloromethane	1.7 U	42	1.7	5	02/15/21 22:43	
Dichlorodifluoromethane (CFC 12)	2.8 U	42	2.8	5	02/15/21 22:43	
Dichloromethane	24 U	42	24	5	02/15/21 22:43	
Ethylbenzene	1.7 U	42	1.7	5	02/15/21 22:43	
Isopropylbenzene (Cumene)	1.7 U	42	1.7	5	02/15/21 22:43	
Methyl Acetate	7.0 U	42	7.0	5	02/15/21 22:43	
Methyl tert-Butyl Ether	1.7 U	42	1.7	5	02/15/21 22:43	
Methylcyclohexane	2.6 U	42	2.6	5	02/15/21 22:43	
Styrene	1.7 U	42	1.7	5	02/15/21 22:43	
Tetrachloroethene (PCE)	2.0 U	42	2.0	5	02/15/21 22:43	
Toluene	**12 J**	42	1.7	5	02/15/21 22:43	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	1.9 U	42	1.9	5	02/15/21 22:43	
Trichlorofluoromethane (CFC 11)	2.2 U	42	2.2	5	02/15/21 22:43	
Vinyl Chloride	3.9 U	42	3.9	5	02/15/21 22:43	
cis-1,2-Dichloroethene	1.7 U	42	1.7	5	02/15/21 22:43	
cis-1,3-Dichloropropene	1.7 U	42	1.7	5	02/15/21 22:43	
m,p-Xylenes	**12 J**	83	3.1	5	02/15/21 22:43	
o-Xylene	**3.3 J**	42	1.7	5	02/15/21 22:43	
trans-1,2-Dichloroethene	1.7 U	42	1.7	5	02/15/21 22:43	
trans-1,3-Dichloropropene	1.7 U	42	1.7	5	02/15/21 22:43	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	31 - 154	02/15/21 22:43	
Dibromofluoromethane	67	63 - 138	02/15/21 22:43	
Toluene-d8	100	66 - 138	02/15/21 22:43	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	8200	U	37000	8200	10	02/19/21 19:45	2/17/21	
2,3,4,6-Tetrachlorophenol	13000	U	37000	13000	10	02/19/21 19:45	2/17/21	
2,4,5-Trichlorophenol	9100	U	37000	9100	10	02/19/21 19:45	2/17/21	
2,4,6-Trichlorophenol	8200	U	37000	8200	10	02/19/21 19:45	2/17/21	
2,4-Dichlorophenol	7100	U	37000	7100	10	02/19/21 19:45	2/17/21	
2,4-Dimethylphenol	6600	U	37000	6600	10	02/19/21 19:45	2/17/21	
2,4-Dinitrophenol	63000	U	190000	63000	10	02/19/21 19:45	2/17/21	
2,4-Dinitrotoluene	15000	U	37000	15000	10	02/19/21 19:45	2/17/21	
2,6-Dinitrotoluene	8000	U	37000	8000	10	02/19/21 19:45	2/17/21	
2-Chloronaphthalene	7400	U	37000	7400	10	02/19/21 19:45	2/17/21	
2-Chlorophenol	6200	U	37000	6200	10	02/19/21 19:45	2/17/21	
2-Methylnaphthalene	**1300000**	**E**	37000	6100	10	02/19/21 19:45	2/17/21	
2-Methylphenol	7600	U	37000	7600	10	02/19/21 19:45	2/17/21	
2-Nitroaniline	8700	U	190000	8700	10	02/19/21 19:45	2/17/21	
2-Nitrophenol	8500	U	37000	8500	10	02/19/21 19:45	2/17/21	
3,3'-Dichlorobenzidine	4100	U	37000	4100	10	02/19/21 19:45	2/17/21	
3- and 4-Methylphenol Coelution	7000	U	37000	7000	10	02/19/21 19:45	2/17/21	
3-Nitroaniline	7400	U	190000	7400	10	02/19/21 19:45	2/17/21	
4,6-Dinitro-2-methylphenol	21000	U	190000	21000	10	02/19/21 19:45	2/17/21	
4-Bromophenyl Phenyl Ether	9700	U	37000	9700	10	02/19/21 19:45	2/17/21	
4-Chloro-3-methylphenol	7400	U	37000	7400	10	02/19/21 19:45	2/17/21	
4-Chloroaniline	6200	U	37000	6200	10	02/19/21 19:45	2/17/21	
4-Chlorophenyl Phenyl Ether	7900	U	37000	7900	10	02/19/21 19:45	2/17/21	
4-Nitroaniline	3800	U	190000	3800	10	02/19/21 19:45	2/17/21	
4-Nitrophenol	7400	U	190000	7400	10	02/19/21 19:45	2/17/21	
Acenaphthene	**62000**		37000	7000	10	02/19/21 19:45	2/17/21	
Acenaphthylene	**790000**	**E**	37000	7400	10	02/19/21 19:45	2/17/21	
Acetophenone	**43000**		37000	11000	10	02/19/21 19:45	2/17/21	
Anthracene	**120000**		37000	6200	10	02/19/21 19:45	2/17/21	
Atrazine	5200	U	37000	5200	10	02/19/21 19:45	2/17/21	
Benz(a)anthracene	**400000**		37000	5500	10	02/19/21 19:45	2/17/21	
Benzaldehyde	**11000**	**J**	190000	8900	10	02/19/21 19:45	2/17/21	
Benzo(a)pyrene	**300000**		37000	9800	10	02/19/21 19:45	2/17/21	
Benzo(b)fluoranthene	**420000**		37000	6200	10	02/19/21 19:45	2/17/21	
Benzo(g,h,i)perylene	**210000**		37000	8500	10	02/19/21 19:45	2/17/21	
Benzo(k)fluoranthene	**140000**		37000	6000	10	02/19/21 19:45	2/17/21	
Biphenyl	**120000**		37000	11000	10	02/19/21 19:45	2/17/21	
2,2'-Oxybis(1-chloropropane)	7500	U	37000	7500	10	02/19/21 19:45	2/17/21	
Bis(2-chloroethoxy)methane	9000	U	37000	9000	10	02/19/21 19:45	2/17/21	
Bis(2-chloroethyl) Ether	7300	U	37000	7300	10	02/19/21 19:45	2/17/21	
Bis(2-ethylhexyl) Phthalate	**7900**	**J**	56000	6700	10	02/19/21 19:45	2/17/21	
Butyl Benzyl Phthalate	4400	U	37000	4400	10	02/19/21 19:45	2/17/21	
Caprolactam	8100	U	37000	8100	10	02/19/21 19:45	2/17/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**99000**		37000	6000	10	02/19/21 19:45	2/17/21	
Chrysene	**410000**		37000	5400	10	02/19/21 19:45	2/17/21	
Di-n-butyl Phthalate	6000	U	37000	6000	10	02/19/21 19:45	2/17/21	
Di-n-octyl Phthalate	13000	U	37000	13000	10	02/19/21 19:45	2/17/21	
Dibenz(a,h)anthracene	**66000**		37000	8000	10	02/19/21 19:45	2/17/21	
Dibenzofuran	**370000**		37000	6700	10	02/19/21 19:45	2/17/21	
Diethyl Phthalate	6500	U	37000	6500	10	02/19/21 19:45	2/17/21	
Dimethyl Phthalate	7000	U	37000	7000	10	02/19/21 19:45	2/17/21	
Fluoranthene	**500000**		37000	9200	10	02/19/21 19:45	2/17/21	
Fluorene	**360000**		37000	6900	10	02/19/21 19:45	2/17/21	
Hexachlorobenzene	8800	U	37000	8800	10	02/19/21 19:45	2/17/21	
Hexachlorobutadiene	6300	U	37000	6300	10	02/19/21 19:45	2/17/21	
Hexachlorocyclopentadiene	12000	U	37000	12000	10	02/19/21 19:45	2/17/21	
Hexachloroethane	6900	U	37000	6900	10	02/19/21 19:45	2/17/21	
Indeno(1,2,3-cd)pyrene	**250000**		37000	12000	10	02/19/21 19:45	2/17/21	
Isophorone	7700	U	37000	7700	10	02/19/21 19:45	2/17/21	
N-Nitrosodi-n-propylamine	12000	U	37000	12000	10	02/19/21 19:45	2/17/21	
N-Nitrosodiphenylamine	23000	U	37000	23000	10	02/19/21 19:45	2/17/21	
Naphthalene	**3600000**	**E**	37000	6900	10	02/19/21 19:45	2/17/21	
Nitrobenzene	6600	U	37000	6600	10	02/19/21 19:45	2/17/21	
Pentachlorophenol (PCP)	37000	U	190000	37000	10	02/19/21 19:45	2/17/21	
Phenanthrene	**500000**		37000	5200	10	02/19/21 19:45	2/17/21	
Phenol	7400	U	37000	7400	10	02/19/21 19:45	2/17/21	
Pyrene	**450000**		37000	6100	10	02/19/21 19:45	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	63	10 - 109	02/19/21 19:45	
2-Fluorobiphenyl	54	10 - 102	02/19/21 19:45	
2-Fluorophenol	40	10 - 88	02/19/21 19:45	
Nitrobenzene-d5	48	10 - 95	02/19/21 19:45	
Phenol-d6	44	10 - 145	02/19/21 19:45	
Terphenyl-d14	61	10 - 106	02/19/21 19:45	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	82000	U	370000	82000	100	02/25/21 15:01	2/17/21	
2,3,4,6-Tetrachlorophenol	130000	U	370000	130000	100	02/25/21 15:01	2/17/21	
2,4,5-Trichlorophenol	91000	U	370000	91000	100	02/25/21 15:01	2/17/21	
2,4,6-Trichlorophenol	82000	U	370000	82000	100	02/25/21 15:01	2/17/21	
2,4-Dichlorophenol	71000	U	370000	71000	100	02/25/21 15:01	2/17/21	
2,4-Dimethylphenol	66000	U	370000	66000	100	02/25/21 15:01	2/17/21	
2,4-Dinitrophenol	630000	U	1900000	630000	100	02/25/21 15:01	2/17/21	
2,4-Dinitrotoluene	150000	U	370000	150000	100	02/25/21 15:01	2/17/21	
2,6-Dinitrotoluene	80000	U	370000	80000	100	02/25/21 15:01	2/17/21	
2-Chloronaphthalene	74000	U	370000	74000	100	02/25/21 15:01	2/17/21	
2-Chlorophenol	62000	U	370000	62000	100	02/25/21 15:01	2/17/21	
2-Methylnaphthalene	**1500000**	**D**	370000	61000	100	02/25/21 15:01	2/17/21	
2-Methylphenol	76000	U	370000	76000	100	02/25/21 15:01	2/17/21	
2-Nitroaniline	87000	U	1900000	87000	100	02/25/21 15:01	2/17/21	
2-Nitrophenol	85000	U	370000	85000	100	02/25/21 15:01	2/17/21	
3,3'-Dichlorobenzidine	41000	U	370000	41000	100	02/25/21 15:01	2/17/21	
3- and 4-Methylphenol Coelution	70000	U	370000	70000	100	02/25/21 15:01	2/17/21	
3-Nitroaniline	74000	U	1900000	74000	100	02/25/21 15:01	2/17/21	
4,6-Dinitro-2-methylphenol	210000	U	1900000	210000	100	02/25/21 15:01	2/17/21	
4-Bromophenyl Phenyl Ether	97000	U	370000	97000	100	02/25/21 15:01	2/17/21	
4-Chloro-3-methylphenol	74000	U	370000	74000	100	02/25/21 15:01	2/17/21	
4-Chloroaniline	62000	U	370000	62000	100	02/25/21 15:01	2/17/21	
4-Chlorophenyl Phenyl Ether	79000	U	370000	79000	100	02/25/21 15:01	2/17/21	
4-Nitroaniline	38000	U	1900000	38000	100	02/25/21 15:01	2/17/21	
4-Nitrophenol	74000	U	1900000	74000	100	02/25/21 15:01	2/17/21	
Acenaphthene	70000	U	370000	70000	100	02/25/21 15:01	2/17/21	
Acenaphthylene	**880000**	**D**	370000	74000	100	02/25/21 15:01	2/17/21	
Acetophenone	110000	U	370000	110000	100	02/25/21 15:01	2/17/21	
Anthracene	**140000**	**J**	370000	62000	100	02/25/21 15:01	2/17/21	
Atrazine	52000	U	370000	52000	100	02/25/21 15:01	2/17/21	
Benz(a)anthracene	**460000**		370000	55000	100	02/25/21 15:01	2/17/21	
Benzaldehyde	89000	U	1900000	89000	100	02/25/21 15:01	2/17/21	
Benzo(a)pyrene	**350000**	**J**	370000	98000	100	02/25/21 15:01	2/17/21	
Benzo(b)fluoranthene	**460000**		370000	62000	100	02/25/21 15:01	2/17/21	
Benzo(g,h,i)perylene	**260000**	**J**	370000	85000	100	02/25/21 15:01	2/17/21	
Benzo(k)fluoranthene	**180000**	**J**	370000	60000	100	02/25/21 15:01	2/17/21	
Biphenyl	**150000**	**J**	370000	110000	100	02/25/21 15:01	2/17/21	
2,2'-Oxybis(1-chloropropane)	75000	U	370000	75000	100	02/25/21 15:01	2/17/21	
Bis(2-chloroethoxy)methane	90000	U	370000	90000	100	02/25/21 15:01	2/17/21	
Bis(2-chloroethyl) Ether	73000	U	370000	73000	100	02/25/21 15:01	2/17/21	
Bis(2-ethylhexyl) Phthalate	67000	U	560000	67000	100	02/25/21 15:01	2/17/21	
Butyl Benzyl Phthalate	44000	U	370000	44000	100	02/25/21 15:01	2/17/21	
Caprolactam	81000	U	370000	81000	100	02/25/21 15:01	2/17/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**120000**	**J**	370000	60000	100	02/25/21 15:01	2/17/21	
Chrysene	**500000**		370000	54000	100	02/25/21 15:01	2/17/21	
Di-n-butyl Phthalate	60000	U	370000	60000	100	02/25/21 15:01	2/17/21	
Di-n-octyl Phthalate	130000	U	370000	130000	100	02/25/21 15:01	2/17/21	
Dibenz(a,h)anthracene	**85000**	**J**	370000	80000	100	02/25/21 15:01	2/17/21	
Dibenzofuran	**460000**		370000	67000	100	02/25/21 15:01	2/17/21	
Diethyl Phthalate	65000	U	370000	65000	100	02/25/21 15:01	2/17/21	
Dimethyl Phthalate	70000	U	370000	70000	100	02/25/21 15:01	2/17/21	
Fluoranthene	**590000**		370000	92000	100	02/25/21 15:01	2/17/21	
Fluorene	**450000**		370000	69000	100	02/25/21 15:01	2/17/21	
Hexachlorobenzene	88000	U	370000	88000	100	02/25/21 15:01	2/17/21	
Hexachlorobutadiene	63000	U	370000	63000	100	02/25/21 15:01	2/17/21	
Hexachlorocyclopentadiene	120000	U	370000	120000	100	02/25/21 15:01	2/17/21	
Hexachloroethane	69000	U	370000	69000	100	02/25/21 15:01	2/17/21	
Indeno(1,2,3-cd)pyrene	**270000**	**J**	370000	120000	100	02/25/21 15:01	2/17/21	
Isophorone	77000	U	370000	77000	100	02/25/21 15:01	2/17/21	
N-Nitrosodi-n-propylamine	120000	U	370000	120000	100	02/25/21 15:01	2/17/21	
N-Nitrosodiphenylamine	230000	U	370000	230000	100	02/25/21 15:01	2/17/21	
Naphthalene	**7000000**	**D**	370000	69000	100	02/25/21 15:01	2/17/21	
Nitrobenzene	66000	U	370000	66000	100	02/25/21 15:01	2/17/21	
Pentachlorophenol (PCP)	370000	U	1900000	370000	100	02/25/21 15:01	2/17/21	
Phenanthrene	**580000**		370000	52000	100	02/25/21 15:01	2/17/21	
Phenol	74000	U	370000	74000	100	02/25/21 15:01	2/17/21	
Pyrene	**530000**		370000	61000	100	02/25/21 15:01	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	0 *	10 - 109	02/25/21 15:01	D
2-Fluorobiphenyl	0 *	10 - 102	02/25/21 15:01	D
2-Fluorophenol	0 *	10 - 88	02/25/21 15:01	D
Nitrobenzene-d5	0 *	10 - 95	02/25/21 15:01	D
Phenol-d6	0 *	10 - 145	02/25/21 15:01	D
Terphenyl-d14	0 *	10 - 106	02/25/21 15:01	D

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	570 U	2600	570	1	02/19/21 20:12	2/17/21	
2,3,4,6-Tetrachlorophenol	890 U	2600	890	1	02/19/21 20:12	2/17/21	
2,4,5-Trichlorophenol	630 U	2600	630	1	02/19/21 20:12	2/17/21	
2,4,6-Trichlorophenol	570 U	2600	570	1	02/19/21 20:12	2/17/21	
2,4-Dichlorophenol	500 U	2600	500	1	02/19/21 20:12	2/17/21	
2,4-Dimethylphenol	460 U	2600	460	1	02/19/21 20:12	2/17/21	
2,4-Dinitrophenol	4400 U	13000	4400	1	02/19/21 20:12	2/17/21	
2,4-Dinitrotoluene	990 U	2600	990	1	02/19/21 20:12	2/17/21	
2,6-Dinitrotoluene	560 U	2600	560	1	02/19/21 20:12	2/17/21	
2-Chloronaphthalene	520 U	2600	520	1	02/19/21 20:12	2/17/21	
2-Chlorophenol	430 U	2600	430	1	02/19/21 20:12	2/17/21	
2-Methylnaphthalene	430 U	2600	430	1	02/19/21 20:12	2/17/21	
2-Methylphenol	530 U	2600	530	1	02/19/21 20:12	2/17/21	
2-Nitroaniline	610 U	13000	610	1	02/19/21 20:12	2/17/21	
2-Nitrophenol	600 U	2600	600	1	02/19/21 20:12	2/17/21	
3,3'-Dichlorobenzidine	290 U	2600	290	1	02/19/21 20:12	2/17/21	
3- and 4-Methylphenol Coelution	490 U	2600	490	1	02/19/21 20:12	2/17/21	
3-Nitroaniline	520 U	13000	520	1	02/19/21 20:12	2/17/21	
4,6-Dinitro-2-methylphenol	1500 U	13000	1500	1	02/19/21 20:12	2/17/21	
4-Bromophenyl Phenyl Ether	680 U	2600	680	1	02/19/21 20:12	2/17/21	
4-Chloro-3-methylphenol	520 U	2600	520	1	02/19/21 20:12	2/17/21	
4-Chloroaniline	440 U	2600	440	1	02/19/21 20:12	2/17/21	
4-Chlorophenyl Phenyl Ether	550 U	2600	550	1	02/19/21 20:12	2/17/21	
4-Nitroaniline	260 U	13000	260	1	02/19/21 20:12	2/17/21	
4-Nitrophenol	520 U	13000	520	1	02/19/21 20:12	2/17/21	
Acenaphthene	490 U	2600	490	1	02/19/21 20:12	2/17/21	
Acenaphthylene	520 U	2600	520	1	02/19/21 20:12	2/17/21	
Acetophenone	740 U	2600	740	1	02/19/21 20:12	2/17/21	
Anthracene	430 U	2600	430	1	02/19/21 20:12	2/17/21	
Atrazine	360 U	2600	360	1	02/19/21 20:12	2/17/21	
Benz(a)anthracene	380 U	2600	380	1	02/19/21 20:12	2/17/21	
Benzaldehyde	620 U	13000	620	1	02/19/21 20:12	2/17/21	
Benzo(a)pyrene	680 U	2600	680	1	02/19/21 20:12	2/17/21	
Benzo(b)fluoranthene	430 U	2600	430	1	02/19/21 20:12	2/17/21	
Benzo(g,h,i)perylene	590 U	2600	590	1	02/19/21 20:12	2/17/21	
Benzo(k)fluoranthene	420 U	2600	420	1	02/19/21 20:12	2/17/21	
Biphenyl	760 U	2600	760	1	02/19/21 20:12	2/17/21	
2,2'-Oxybis(1-chloropropane)	530 U	2600	530	1	02/19/21 20:12	2/17/21	
Bis(2-chloroethoxy)methane	630 U	2600	630	1	02/19/21 20:12	2/17/21	
Bis(2-chloroethyl) Ether	510 U	2600	510	1	02/19/21 20:12	2/17/21	
Bis(2-ethylhexyl) Phthalate	470 U	3900	470	1	02/19/21 20:12	2/17/21	
Butyl Benzyl Phthalate	310 U	2600	310	1	02/19/21 20:12	2/17/21	
Caprolactam	570 U	2600	570	1	02/19/21 20:12	2/17/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	420 U	2600	420	1	02/19/21 20:12	2/17/21	
Chrysene	380 U	2600	380	1	02/19/21 20:12	2/17/21	
Di-n-butyl Phthalate	420 U	2600	420	1	02/19/21 20:12	2/17/21	
Di-n-octyl Phthalate	900 U	2600	900	1	02/19/21 20:12	2/17/21	
Dibenz(a,h)anthracene	560 U	2600	560	1	02/19/21 20:12	2/17/21	
Dibenzofuran	470 U	2600	470	1	02/19/21 20:12	2/17/21	
Diethyl Phthalate	460 U	2600	460	1	02/19/21 20:12	2/17/21	
Dimethyl Phthalate	490 U	2600	490	1	02/19/21 20:12	2/17/21	
Fluoranthene	650 U	2600	650	1	02/19/21 20:12	2/17/21	
Fluorene	480 U	2600	480	1	02/19/21 20:12	2/17/21	
Hexachlorobenzene	620 U	2600	620	1	02/19/21 20:12	2/17/21	
Hexachlorobutadiene	440 U	2600	440	1	02/19/21 20:12	2/17/21	
Hexachlorocyclopentadiene	820 U	2600	820	1	02/19/21 20:12	2/17/21	
Hexachloroethane	480 U	2600	480	1	02/19/21 20:12	2/17/21	
Indeno(1,2,3-cd)pyrene	830 U	2600	830	1	02/19/21 20:12	2/17/21	
Isophorone	540 U	2600	540	1	02/19/21 20:12	2/17/21	
N-Nitrosodi-n-propylamine	790 U	2600	790	1	02/19/21 20:12	2/17/21	
N-Nitrosodiphenylamine	1600 U	2600	1600	1	02/19/21 20:12	2/17/21	
Naphthalene	480 U	2600	480	1	02/19/21 20:12	2/17/21	
Nitrobenzene	460 U	2600	460	1	02/19/21 20:12	2/17/21	
Pentachlorophenol (PCP)	2600 U	13000	2600	1	02/19/21 20:12	2/17/21	
Phenanthrene	370 U	2600	370	1	02/19/21 20:12	2/17/21	
Phenol	520 U	2600	520	1	02/19/21 20:12	2/17/21	
Pyrene	430 U	2600	430	1	02/19/21 20:12	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	39	10 - 109	02/19/21 20:12	
2-Fluorobiphenyl	31	10 - 102	02/19/21 20:12	
2-Fluorophenol	38	10 - 88	02/19/21 20:12	
Nitrobenzene-d5	32	10 - 95	02/19/21 20:12	
Phenol-d6	48	10 - 145	02/19/21 20:12	
Terphenyl-d14	64	10 - 106	02/19/21 20:12	

Semivolatile Organic Compounds by GC

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	180	U	360	180	100	03/03/21 01:10	2/16/21	
4,4'-DDE	180	U	360	180	100	03/03/21 01:10	2/16/21	
4,4'-DDT	180	U	360	180	100	03/03/21 01:10	2/16/21	
Aldrin	180	U	360	180	100	03/03/21 01:10	2/16/21	
Dieldrin	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endosulfan I	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endosulfan II	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endosulfan Sulfate	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endrin	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endrin Aldehyde	180	U	360	180	100	03/03/21 01:10	2/16/21	
Endrin Ketone	180	U	360	180	100	03/03/21 01:10	2/16/21	
Heptachlor	180	U	360	180	100	03/03/21 01:10	2/16/21	
Heptachlor Epoxide	180	U	360	180	100	03/03/21 01:10	2/16/21	
Methoxychlor	180	U	360	180	100	03/03/21 01:10	2/16/21	
Toxaphene	4100	U	7000	4100	100	03/03/21 01:10	2/16/21	
alpha-BHC	180	U	360	180	100	03/03/21 01:10	2/16/21	
alpha-Chlordane	180	U	360	180	100	03/03/21 01:10	2/16/21	
beta-BHC	180	U	360	180	100	03/03/21 01:10	2/16/21	
delta-BHC	180	U	360	180	100	03/03/21 01:10	2/16/21	
gamma-BHC (Lindane)	180	U	360	180	100	03/03/21 01:10	2/16/21	
gamma-Chlordane	**3100**		360	180	100	03/03/21 01:10	2/16/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	0 *	10 - 145	03/03/21 01:10	D
Tetrachloro-m-xylene	0 *	10 - 123	03/03/21 01:10	D

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	180	U	360	180	100	03/03/21 16:12	2/16/21	
4,4'-DDE	180	U	360	180	100	03/03/21 16:12	2/16/21	
4,4'-DDT	**1600**	**P**	360	180	100	03/03/21 16:12	2/16/21	
Aldrin	180	U	360	180	100	03/03/21 16:12	2/16/21	
Dieldrin	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endosulfan I	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endosulfan II	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endosulfan Sulfate	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endrin	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endrin Aldehyde	180	U	360	180	100	03/03/21 16:12	2/16/21	
Endrin Ketone	180	U	360	180	100	03/03/21 16:12	2/16/21	
Heptachlor	180	U	360	180	100	03/03/21 16:12	2/16/21	
Heptachlor Epoxide	180	U	360	180	100	03/03/21 16:12	2/16/21	
Methoxychlor	180	U	360	180	100	03/03/21 16:12	2/16/21	
Toxaphene	4100	U	7000	4100	100	03/03/21 16:12	2/16/21	
alpha-BHC	180	U	360	180	100	03/03/21 16:12	2/16/21	
alpha-Chlordane	180	U	360	180	100	03/03/21 16:12	2/16/21	
beta-BHC	180	U	360	180	100	03/03/21 16:12	2/16/21	
delta-BHC	180	U	360	180	100	03/03/21 16:12	2/16/21	
gamma-BHC (Lindane)	180	U	360	180	100	03/03/21 16:12	2/16/21	
gamma-Chlordane	**1400**	**P**	360	180	100	03/03/21 16:12	2/16/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	0 *	10 - 145	03/03/21 16:12	D
Tetrachloro-m-xylene	0 *	10 - 123	03/03/21 16:12	D

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
4,4'-DDE	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
4,4'-DDT	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Aldrin	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Dieldrin	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endosulfan I	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endosulfan II	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endosulfan Sulfate	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endrin	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endrin Aldehyde	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Endrin Ketone	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Heptachlor	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Heptachlor Epoxide	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Methoxychlor	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
Toxaphene	32 U	55	32	1	03/03/21 00:51	2/16/21	
alpha-BHC	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
alpha-Chlordane	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
beta-BHC	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
delta-BHC	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
gamma-BHC (Lindane)	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	
gamma-Chlordane	1.4 U	2.8	1.4	1	03/03/21 00:51	2/16/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	75	10 - 145	03/03/21 00:51	
Tetrachloro-m-xylene	51	10 - 123	03/03/21 00:51	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	37 U	70	37	1	02/23/21 17:18	2/16/21	
Aroclor 1221	37 U	140	37	1	02/23/21 17:18	2/16/21	
Aroclor 1232	37 U	70	37	1	02/23/21 17:18	2/16/21	
Aroclor 1242	37 U	70	37	1	02/23/21 17:18	2/16/21	
Aroclor 1248	37 U	70	37	1	02/23/21 17:18	2/16/21	
Aroclor 1254	37 U	70	37	1	02/23/21 17:18	2/16/21	
Aroclor 1260	37 U	70	37	1	02/23/21 17:18	2/16/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	4 *	22 - 128	02/23/21 17:18	*
Tetrachloro-m-xylene	8 *	14 - 119	02/23/21 17:18	*

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	70 U	130	70	1	02/26/21 15:28	2/25/21	
Aroclor 1221	70 U	270	70	1	02/26/21 15:28	2/25/21	
Aroclor 1232	70 U	130	70	1	02/26/21 15:28	2/25/21	
Aroclor 1242	70 U	130	70	1	02/26/21 15:28	2/25/21	
Aroclor 1248	70 U	130	70	1	02/26/21 15:28	2/25/21	
Aroclor 1254	70 U	130	70	1	02/26/21 15:28	2/25/21	
Aroclor 1260	70 U	130	70	1	02/26/21 15:28	2/25/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	6 *	22 - 128	02/26/21 15:28	*
Tetrachloro-m-xylene	11 *	14 - 119	02/26/21 15:28	*

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	29 U	55	29	1	02/18/21 00:25	2/16/21	
Aroclor 1221	29 U	110	29	1	02/18/21 00:25	2/16/21	
Aroclor 1232	29 U	55	29	1	02/18/21 00:25	2/16/21	
Aroclor 1242	29 U	55	29	1	02/18/21 00:25	2/16/21	
Aroclor 1248	29 U	55	29	1	02/18/21 00:25	2/16/21	
Aroclor 1254	29 U	55	29	1	02/18/21 00:25	2/16/21	
Aroclor 1260	29 U	55	29	1	02/18/21 00:25	2/16/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	72	22 - 128	02/18/21 00:25	
Tetrachloro-m-xylene	45	14 - 119	02/18/21 00:25	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/Kg
Lab Code:	R2101321-001	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	170 U	340	170	10	02/25/21 10:23	2/19/21	
2,4,5-TP	160 U	340	160	10	02/25/21 10:23	2/19/21	
2,4-D	220 U	340	220	10	02/25/21 10:23	2/19/21	
Dicamba	110 U	340	110	10	02/25/21 10:23	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	488 *	10 - 151	02/25/21 10:23	*

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	17 U	34	17	1	02/23/21 23:05	2/19/21	
2,4,5-TP	16 U	34	16	1	02/23/21 23:05	2/19/21	
2,4-D	22 U	34	22	1	02/23/21 23:05	2/19/21	
Dicamba	11 U	34	11	1	02/23/21 23:05	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	2 *	10 - 151	02/23/21 23:05	*

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/Kg
Lab Code:	R2101321-002	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	17 U	33	17	1	02/26/21 15:31	2/25/21	
2,4,5-TP	15 U	33	15	1	02/26/21 15:31	2/25/21	
2,4-D	22 U	33	22	1	02/26/21 15:31	2/25/21	
Dicamba	11 U	33	11	1	02/26/21 15:31	2/25/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	22	10 - 151	02/26/21 15:31	

Metals

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METALS
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INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering
Project No.: R2101321
Project Name: NA
Matrix: SOIL

Service Request: TK-SD-PT12-0211
Date Collected: 2/11/2021
Date Received: 2/12/2021
Units: mg/Kg
Basis:

Sample Name: TK-SD-PT12-0211 **Lab Code:** R2101321-001

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	221	133	10.0	758		
Antimony	6010C	66.3	6.0	10.0	66.3	U	
Arsenic	6010C	11.0	7.7	10.0	19.0		
Barium	6010C	22.1	16.6	10.0	23.8		
Beryllium	6010C	3.3	0.663	10.0	3.3	U	
Cadmium	6010C	5.5	2.7	10.0	2.9	J	
Mercury	7471B	19.2	7.5	500.0	494		
Calcium	6010C	1100	354	10.0	4200		
Chromium	6010C	11.0	3.9	10.0	23.9		
Cobalt	6010C	55.2	5.1	10.0	55.2	U	
Copper	6010C	22.1	7.0	10.0	99.8		
Iron	6010C	221	144	10.0	49100		
Lead	6010C	55.2	4.4	10.0	171		
Magnesium	6010C	1100	144	10.0	553	J	
Manganese	6010C	22.1	16.6	10.0	183		
Nickel	6010C	44.2	7.3	10.0	9.9	J	
Potassium	6010C	2210	552	10.0	2210	U	
Selenium	6010C	11.0	6.0	10.0	11.0	U	
Silver	6010C	11.0	0.994	10.0	11.0	U	
Sodium	6010C	1100	575	10.0	1100	U	
Thallium	6010C	11.0	7.2	10.0	11.0	U	
Vanadium	6010C	55.2	7.8	10.0	55.2	U	
Zinc	6010C	22.1	15.5	10.0	291		

% Solids: 83.8

Comments:

METALS
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INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering
Project No.: R2101321
Project Name: NA
Matrix: SOIL

Service Request: TK-SD-PT12-0211
Date Collected: 2/11/2021
Date Received: 2/12/2021
Units: mg/Kg
Basis:

Sample Name: TK-SD-ST02-0211 **Lab Code:** R2101321-002

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	30.2	18.1	1.0	30.2	U	
Antimony	6010C	9.1	0.815	1.0	9.1	U	
Arsenic	6010C	15.1	10.6	10.0	15.1	U	
Barium	6010C	3.0	2.3	1.0	3.0	U	
Beryllium	6010C	0.453	0.091	1.0	0.453	U	
Cadmium	6010C	0.755	0.362	1.0	0.755	U	
Mercury	7471B	0.054	0.021	1.0	0.112		
Calcium	6010C	151	48.3	1.0	151	U	
Chromium	6010C	1.5	0.529	1.0	34.5		
Cobalt	6010C	7.6	0.695	1.0	1.5	J	
Copper	6010C	3.0	0.951	1.0	32.4		
Iron	6010C	302	196	10.0	25400		
Lead	6010C	7.6	0.604	1.0	1.2	J	
Magnesium	6010C	151	19.6	1.0	151	U	
Manganese	6010C	3.0	2.3	1.0	93.1		
Nickel	6010C	6.0	0.997	1.0	29.3		
Potassium	6010C	302	75.5	1.0	252	J	
Selenium	6010C	1.5	0.815	1.0	1.1	J	
Silver	6010C	1.5	0.136	1.0	1.5	U	
Sodium	6010C	1510	785	10.0	216000		
Thallium	6010C	1.5	0.982	1.0	1.5	U	
Vanadium	6010C	7.6	1.1	1.0	7.6	U	
Zinc	6010C	3.0	2.1	1.0	2.5	J	

% Solids: 60.2

Comments:

General Chemistry

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Basis:**	Dry
Lab Code:	R2101321-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	**433**	mg/Kg	30	19	5	02/23/21 17:02	02/22/21	
Cyanide, Total	9012B	**46.4**	mg/Kg	1.4	0.9	5	02/19/21 13:19	02/18/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Basis:**	As Received
Lab Code:	R2101321-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
pH	9045D	**4.28**	pH Units	-	-	1	02/16/21 21:16	NA	H
Total Solids	ALS SOP	**83.8**	Percent	-	-	1	02/19/21 05:40	NA	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Basis:**	Dry
Lab Code:	R2101321-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	5.2	U	mg/Kg	8.3	5.2	1	02/23/21 16:50	02/22/21	
Cyanide, Total	9012B	0.25	U	mg/Kg	0.43	0.25	1	02/19/21 13:06	02/18/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Basis:**	As Received
Lab Code:	R2101321-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
pH	9045D	**10.88**	pH Units	-	-	1	02/16/21 21:16	NA	H
Total Solids	ALS SOP	**60.2**	Percent	-	-	1	02/19/21 05:40	NA	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Volatile Organic Compounds by GC/MS

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 31-154	Dibromofluoromethane 63-138	Toluene-d8 66-138
TK-SD-PT12-0211	R2101321-001	98	93	100
TK-SD-ST02-0211	R2101321-002	96	67	100
Method Blank	RQ2101482-04	95	93	99
Method Blank	RQ2101705-04	100	85	103
Lab Control Sample	RQ2101482-03	97	95	100
Lab Control Sample	RQ2101705-03	101	97	101

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101482-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,1,2,2-Tetrachloroethane	0.44 U	5.0	0.44	1	02/15/21 15:13	
1,1,2-Trichloroethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,1-Dichloroethane (1,1-DCA)	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,1-Dichloroethene (1,1-DCE)	0.29 U	5.0	0.29	1	02/15/21 15:13	
1,2,3-Trichlorobenzene	0.52 U	5.0	0.52	1	02/15/21 15:13	
1,2,4-Trichlorobenzene	0.42 U	5.0	0.42	1	02/15/21 15:13	
1,2-Dibromo-3-chloropropane (DBCP)	0.75 U	5.0	0.75	1	02/15/21 15:13	
1,2-Dibromoethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,2-Dichlorobenzene	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,2-Dichloroethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,2-Dichloropropane	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,3-Dichlorobenzene	0.20 U	5.0	0.20	1	02/15/21 15:13	
1,4-Dichlorobenzene	0.22 U	5.0	0.22	1	02/15/21 15:13	
1,4-Dioxane	20 U	100	20	1	02/15/21 15:13	
2-Butanone (MEK)	2.0 U	5.0	2.0	1	02/15/21 15:13	
2-Hexanone	0.36 U	5.0	0.36	1	02/15/21 15:13	
4-Methyl-2-pentanone	0.23 U	5.0	0.23	1	02/15/21 15:13	
Acetone	4.7 U	5.0	4.7	1	02/15/21 15:13	
Benzene	0.20 U	5.0	0.20	1	02/15/21 15:13	
Bromochloromethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
Bromodichloromethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
Bromoform	0.50 U	5.0	0.50	1	02/15/21 15:13	
Bromomethane	2.1 U	5.0	2.1	1	02/15/21 15:13	
Carbon Disulfide	0.29 U	5.0	0.29	1	02/15/21 15:13	
Carbon Tetrachloride	0.26 U	5.0	0.26	1	02/15/21 15:13	
Chlorobenzene	0.20 U	5.0	0.20	1	02/15/21 15:13	
Chloroethane	0.41 U	5.0	0.41	1	02/15/21 15:13	
Chloroform	0.20 U	5.0	0.20	1	02/15/21 15:13	
Chloromethane	1.4 U	5.0	1.4	1	02/15/21 15:13	
Cyclohexane	0.26 U	5.0	0.26	1	02/15/21 15:13	
Dibromochloromethane	0.20 U	5.0	0.20	1	02/15/21 15:13	
Dichlorodifluoromethane (CFC 12)	0.33 U	5.0	0.33	1	02/15/21 15:13	
Dichloromethane	2.8 U	5.0	2.8	1	02/15/21 15:13	
Ethylbenzene	0.20 U	5.0	0.20	1	02/15/21 15:13	
Isopropylbenzene (Cumene)	0.20 U	5.0	0.20	1	02/15/21 15:13	
Methyl Acetate	0.84 U	5.0	0.84	1	02/15/21 15:13	
Methyl tert-Butyl Ether	0.20 U	5.0	0.20	1	02/15/21 15:13	
Methylcyclohexane	0.31 U	5.0	0.31	1	02/15/21 15:13	
Styrene	0.20 U	5.0	0.20	1	02/15/21 15:13	
Tetrachloroethene (PCE)	0.23 U	5.0	0.23	1	02/15/21 15:13	
Toluene	0.20 U	5.0	0.20	1	02/15/21 15:13	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101482-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	0.22 U	5.0	0.22	1	02/15/21 15:13	
Trichlorofluoromethane (CFC 11)	0.26 U	5.0	0.26	1	02/15/21 15:13	
Vinyl Chloride	0.46 U	5.0	0.46	1	02/15/21 15:13	
cis-1,2-Dichloroethene	0.20 U	5.0	0.20	1	02/15/21 15:13	
cis-1,3-Dichloropropene	0.20 U	5.0	0.20	1	02/15/21 15:13	
m,p-Xylenes	0.37 U	10	0.37	1	02/15/21 15:13	
o-Xylene	0.20 U	5.0	0.20	1	02/15/21 15:13	
trans-1,2-Dichloroethene	0.20 U	5.0	0.20	1	02/15/21 15:13	
trans-1,3-Dichloropropene	0.20 U	5.0	0.20	1	02/15/21 15:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	31 - 154	02/15/21 15:13	
Dibromofluoromethane	93	63 - 138	02/15/21 15:13	
Toluene-d8	99	66 - 138	02/15/21 15:13	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101705-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	10 U	250	10	50	02/19/21 12:28	
1,1,2,2-Tetrachloroethane	22 U	250	22	50	02/19/21 12:28	
1,1,2-Trichloroethane	10 U	250	10	50	02/19/21 12:28	
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	250	10	50	02/19/21 12:28	
1,1-Dichloroethane (1,1-DCA)	10 U	250	10	50	02/19/21 12:28	
1,1-Dichloroethene (1,1-DCE)	15 U	250	15	50	02/19/21 12:28	
1,2,3-Trichlorobenzene	26 U	250	26	50	02/19/21 12:28	
1,2,4-Trichlorobenzene	21 U	250	21	50	02/19/21 12:28	
1,2-Dibromo-3-chloropropane (DBCP)	38 U	250	38	50	02/19/21 12:28	
1,2-Dibromoethane	10 U	250	10	50	02/19/21 12:28	
1,2-Dichlorobenzene	10 U	250	10	50	02/19/21 12:28	
1,2-Dichloroethane	10 U	250	10	50	02/19/21 12:28	
1,2-Dichloropropane	10 U	250	10	50	02/19/21 12:28	
1,3-Dichlorobenzene	10 U	250	10	50	02/19/21 12:28	
1,4-Dichlorobenzene	11 U	250	11	50	02/19/21 12:28	
1,4-Dioxane	1000 U	5000	1000	50	02/19/21 12:28	
2-Butanone (MEK)	100 U	250	100	50	02/19/21 12:28	
2-Hexanone	18 U	250	18	50	02/19/21 12:28	
4-Methyl-2-pentanone	12 U	250	12	50	02/19/21 12:28	
Acetone	240 U	250	240	50	02/19/21 12:28	
Benzene	10 U	250	10	50	02/19/21 12:28	
Bromochloromethane	10 U	250	10	50	02/19/21 12:28	
Bromodichloromethane	10 U	250	10	50	02/19/21 12:28	
Bromoform	25 U	250	25	50	02/19/21 12:28	
Bromomethane	110 U	250	110	50	02/19/21 12:28	
Carbon Disulfide	15 U	250	15	50	02/19/21 12:28	
Carbon Tetrachloride	13 U	250	13	50	02/19/21 12:28	
Chlorobenzene	10 U	250	10	50	02/19/21 12:28	
Chloroethane	21 U	250	21	50	02/19/21 12:28	
Chloroform	10 U	250	10	50	02/19/21 12:28	
Chloromethane	70 U	250	70	50	02/19/21 12:28	
Cyclohexane	13 U	250	13	50	02/19/21 12:28	
Dibromochloromethane	10 U	250	10	50	02/19/21 12:28	
Dichlorodifluoromethane (CFC 12)	17 U	250	17	50	02/19/21 12:28	
Dichloromethane	140 U	250	140	50	02/19/21 12:28	
Ethylbenzene	10 U	250	10	50	02/19/21 12:28	
Isopropylbenzene (Cumene)	10 U	250	10	50	02/19/21 12:28	
Methyl Acetate	42 U	250	42	50	02/19/21 12:28	
Methyl tert-Butyl Ether	10 U	250	10	50	02/19/21 12:28	
Methylcyclohexane	16 U	250	16	50	02/19/21 12:28	
Styrene	10 U	250	10	50	02/19/21 12:28	
Tetrachloroethene (PCE)	12 U	250	12	50	02/19/21 12:28	
Toluene	10 U	250	10	50	02/19/21 12:28	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101705-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	11 U	250	11	50	02/19/21 12:28	
Trichlorofluoromethane (CFC 11)	13 U	250	13	50	02/19/21 12:28	
Vinyl Chloride	23 U	250	23	50	02/19/21 12:28	
cis-1,2-Dichloroethene	10 U	250	10	50	02/19/21 12:28	
cis-1,3-Dichloropropene	10 U	250	10	50	02/19/21 12:28	
m,p-Xylenes	19 U	500	19	50	02/19/21 12:28	
o-Xylene	10 U	250	10	50	02/19/21 12:28	
trans-1,2-Dichloroethene	10 U	250	10	50	02/19/21 12:28	
trans-1,3-Dichloropropene	10 U	250	10	50	02/19/21 12:28	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	31 - 154	02/19/21 12:28	
Dibromofluoromethane	85	63 - 138	02/19/21 12:28	
Toluene-d8	103	66 - 138	02/19/21 12:28	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/15/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ2101482-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	19.2	20.0	96	68-123
1,1,2,2-Tetrachloroethane	8260C	17.0	20.0	85	78-121
1,1,2-Trichloroethane	8260C	19.7	20.0	98	84-117
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	18.5	20.0	93	54-121
1,1-Dichloroethane (1,1-DCA)	8260C	20.2	20.0	101	76-123
1,1-Dichloroethene (1,1-DCE)	8260C	24.1	20.0	121 *	65-115
1,2,3-Trichlorobenzene	8260C	17.2	20.0	86	60-128
1,2,4-Trichlorobenzene	8260C	17.7	20.0	89	62-130
1,2-Dibromo-3-chloropropane (DBCP)	8260C	15.9	20.0	80	54-135
1,2-Dibromoethane	8260C	19.0	20.0	95	77-117
1,2-Dichlorobenzene	8260C	18.2	20.0	91	75-116
1,2-Dichloroethane	8260C	18.9	20.0	95	74-116
1,2-Dichloropropane	8260C	19.3	20.0	97	79-112
1,3-Dichlorobenzene	8260C	18.7	20.0	93	72-118
1,4-Dichlorobenzene	8260C	18.2	20.0	91	72-117
1,4-Dioxane	8260C	365	400	91	59-147
2-Butanone (MEK)	8260C	18.1	20.0	90	67-129
2-Hexanone	8260C	18.2	20.0	91	68-118
4-Methyl-2-pentanone	8260C	18.0	20.0	90	64-123
Acetone	8260C	18.1	20.0	91	32-154
Benzene	8260C	19.9	20.0	99	77-114
Bromochloromethane	8260C	19.5	20.0	98	78-117
Bromodichloromethane	8260C	18.3	20.0	92	72-118
Bromoform	8260C	16.5	20.0	82	55-134
Bromomethane	8260C	21.4	20.0	107	10-150
Carbon Disulfide	8260C	20.8	20.0	104	44-139
Carbon Tetrachloride	8260C	17.3	20.0	86	51-123
Chlorobenzene	8260C	19.2	20.0	96	79-115
Chloroethane	8260C	20.9	20.0	105	10-140
Chloroform	8260C	20.6	20.0	103	76-115
Chloromethane	8260C	19.7	20.0	99	10-131
Cyclohexane	8260C	20.3	20.0	102	67-122
Dibromochloromethane	8260C	18.4	20.0	92	68-121

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/15/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ2101482-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.9	20.0	119	51-144
Dichloromethane	8260C	19.2	20.0	96	72-118
Ethylbenzene	8260C	18.2	20.0	91	64-118
Isopropylbenzene (Cumene)	8260C	17.7	20.0	89	60-123
Methyl Acetate	8260C	16.7	20.0	83	31-122
Methyl tert-Butyl Ether	8260C	20.6	20.0	103	76-118
Methylcyclohexane	8260C	21.5	20.0	107	70-124
Styrene	8260C	18.1	20.0	91	74-117
Tetrachloroethene (PCE)	8260C	17.5	20.0	87	58-124
Toluene	8260C	19.1	20.0	96	72-116
Trichloroethene (TCE)	8260C	20.2	20.0	101	69-118
Trichlorofluoromethane (CFC 11)	8260C	20.1	20.0	100	52-127
Vinyl Chloride	8260C	20.7	20.0	103	59-153
cis-1,2-Dichloroethene	8260C	21.1	20.0	105	79-113
cis-1,3-Dichloropropene	8260C	18.9	20.0	95	66-117
m,p-Xylenes	8260C	37.1	40.0	93	68-118
o-Xylene	8260C	18.9	20.0	94	71-116
trans-1,2-Dichloroethene	8260C	22.6	20.0	113	73-114
trans-1,3-Dichloropropene	8260C	18.6	20.0	93	57-135

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/19/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ2101705-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	20.8	20.0	104	68-123
1,1,2,2-Tetrachloroethane	8260C	17.7	20.0	89	78-121
1,1,2-Trichloroethane	8260C	19.4	20.0	97	84-117
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	22.5	20.0	113	54-121
1,1-Dichloroethane (1,1-DCA)	8260C	21.7	20.0	108	76-123
1,1-Dichloroethene (1,1-DCE)	8260C	26.7	20.0	134 *	65-115
1,2,3-Trichlorobenzene	8260C	18.6	20.0	93	60-128
1,2,4-Trichlorobenzene	8260C	20.3	20.0	101	62-130
1,2-Dibromo-3-chloropropane (DBCP)	8260C	12.5	20.0	63	54-135
1,2-Dibromoethane	8260C	19.3	20.0	96	77-117
1,2-Dichlorobenzene	8260C	19.3	20.0	96	75-116
1,2-Dichloroethane	8260C	19.7	20.0	98	74-116
1,2-Dichloropropane	8260C	20.3	20.0	101	79-112
1,3-Dichlorobenzene	8260C	19.8	20.0	99	72-118
1,4-Dichlorobenzene	8260C	19.6	20.0	98	72-117
1,4-Dioxane	8260C	343	400	86	59-147
2-Butanone (MEK)	8260C	18.4	20.0	92	67-129
2-Hexanone	8260C	16.9	20.0	84	68-118
4-Methyl-2-pentanone	8260C	17.1	20.0	86	64-123
Acetone	8260C	18.3	20.0	91	32-154
Benzene	8260C	20.2	20.0	101	77-114
Bromochloromethane	8260C	19.7	20.0	99	78-117
Bromodichloromethane	8260C	16.9	20.0	84	72-118
Bromoform	8260C	14.5	20.0	73	55-134
Bromomethane	8260C	8.78	20.0	44	10-150
Carbon Disulfide	8260C	19.1	20.0	96	44-139
Carbon Tetrachloride	8260C	18.2	20.0	91	51-123
Chlorobenzene	8260C	20.5	20.0	103	79-115
Chloroethane	8260C	7.81	20.0	39	10-140
Chloroform	8260C	21.4	20.0	107	76-115
Chloromethane	8260C	21.2	20.0	106	10-131
Cyclohexane	8260C	17.9	20.0	90	67-122
Dibromochloromethane	8260C	17.7	20.0	88	68-121

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/19/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ2101705-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.8	20.0	119	51-144
Dichloromethane	8260C	20.7	20.0	103	72-118
Ethylbenzene	8260C	21.4	20.0	107	64-118
Isopropylbenzene (Cumene)	8260C	21.4	20.0	107	60-123
Methyl Acetate	8260C	21.0	20.0	105	31-122
Methyl tert-Butyl Ether	8260C	21.0	20.0	105	76-118
Methylcyclohexane	8260C	19.6	20.0	98	70-124
Styrene	8260C	20.5	20.0	103	74-117
Tetrachloroethene (PCE)	8260C	19.9	20.0	99	58-124
Toluene	8260C	20.4	20.0	102	72-116
Trichloroethene (TCE)	8260C	20.3	20.0	102	69-118
Trichlorofluoromethane (CFC 11)	8260C	23.9	20.0	120	52-127
Vinyl Chloride	8260C	20.3	20.0	102	59-153
cis-1,2-Dichloroethene	8260C	22.7	20.0	113	79-113
cis-1,3-Dichloropropene	8260C	18.4	20.0	92	66-117
m,p-Xylenes	8260C	42.2	40.0	105	68-118
o-Xylene	8260C	21.2	20.0	106	71-116
trans-1,2-Dichloroethene	8260C	24.1	20.0	121 *	73-114
trans-1,3-Dichloropropene	8260C	18.0	20.0	90	57-135

Semivolatile Organic Compounds by GC/MS

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Extraction Method: EPA 3546

Sample Name	Lab Code	2,4,6-Tribromophenol 10-109	2-Fluorobiphenyl 10-102	2-Fluorophenol 10-88
Batch QC	R2101317-001	41	52	56
TK-SD-PT12-0211	R2101321-001	63	54	40
TK-SD-PT12-0211 DL	R2101321-001	0*	0*	0*
TK-SD-ST02-0211	R2101321-002	39	31	38
Method Blank	RQ2101599-01	84	71	75
Lab Control Sample	RQ2101599-02	80	65	66
Duplicate Lab Control Sample	RQ2101599-03	87	73	74
Batch QC MS	RQ2101599-04	44	55	57
Batch QC DMS	RQ2101599-05	38	45	51

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Extraction Method: EPA 3546

		Nitrobenzene-d5	Phenol-d6	Terphenyl-d14
Sample Name	**Lab Code**	**10-95**	**10-145**	**10-106**
Batch QC	R2101317-001	6*	52	53
TK-SD-PT12-0211	R2101321-001	48	44	61
TK-SD-PT12-0211 DL	R2101321-001	0*	0*	0*
TK-SD-ST02-0211	R2101321-002	32	48	64
Method Blank	RQ2101599-01	73	73	90
Lab Control Sample	RQ2101599-02	64	65	79
Duplicate Lab Control Sample	RQ2101599-03	72	74	82
Batch QC MS	RQ2101599-04	6*	55	58
Batch QC DMS	RQ2101599-05	7*	47	54

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QA/QC Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	N/A
Sample Matrix:	Soil	**Date Received:**	N/A
		Date Analyzed:	02/18/21
		Date Extracted:	02/17/21

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Sample Name:	Batch QC	**Units:**	ug/Kg
Lab Code:	R2101317-001	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3546		

		Matrix Spike			Duplicate Matrix Spike					
		RQ2101599-04			RQ2101599-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	200 U	4620	8700	53	4010	9100	44	10-115	14	30
2,3,4,6-Tetrachlorophenol	300 U	3600	8690	41	3620	9090	40	10-123	<1	30
2,4,5-Trichlorophenol	220 U	4570	8690	53	4250	9090	47	12-109	7	30
2,4,6-Trichlorophenol	200 U	4060	8690	47	3680	9090	41	13-149	10	30
2,4-Dichlorophenol	170 U	4420	8690	51	4240	9090	47	16-98	4	30
2,4-Dimethylphenol	160 U	4630	8690	53	4480	9090	49	10-98	3	30
2,4-Dinitrophenol	1500 U	1500 U	8690	0 *	1600 U	9090	0 *	10-129	NC	30
2,4-Dinitrotoluene	330 U	330 U	8690	0 *	350 U	9090	0 *	10-124	NC	30
2,6-Dinitrotoluene	190 U	190 U	8690	0 *	200 U	9090	0 *	13-112	NC	30
2-Chloronaphthalene	180 U	4840	8690	56	4320	9090	47	10-94	11	30
2-Chlorophenol	150 U	4650	8690	54	4310	9090	47	14-99	8	30
2-Methylnaphthalene	150 U	4500	8690	52	4040	9090	44	10-90	11	30
2-Methylphenol	180 U	5040	8690	58	4680	9090	51	10-86	8	30
2-Nitroaniline	210 U	1280 J	8690	15	1800 J	9090	20	10-109	33*	30
2-Nitrophenol	200 U	200 U	8690	0 *	210 U	9090	0 *	10-90	NC	30
3,3'-Dichlorobenzidine	97 U	2250	8690	26	2270	9090	25	10-118	<1	30
3- and 4-Methylphenol Coelution	170 U	5020	8690	58	4790	9090	53	11-101	5	30
3-Nitroaniline	180 U	395 J	8690	5 *	663 J	9090	7 *	10-104	51*	30
4,6-Dinitro-2-methylphenol	490 U	490 U	8690	0 *	510 U	9090	0 *	10-123	NC	30
4-Bromophenyl Phenyl Ether	230 U	5060	8690	58	4630	9090	51	10-99	9	30
4-Chloro-3-methylphenol	180 U	4490	8690	52	4360	9090	48	10-108	3	30
4-Chloroaniline	150 U	1990	8690	23	1800	9090	20	10-91	10	30
4-Chlorophenyl Phenyl Ether	190 U	4770	8690	55	4310	9090	47	10-95	10	30
4-Nitroaniline	88 U	1970 J	8690	23	2460 J	9090	27	10-137	22	30
4-Nitrophenol	180 U	880 J	8690	10	1090 J	9090	12	10-130	22	30
Acenaphthene	170 U	4880	8690	56	4420	9090	49	10-100	10	30
Acenaphthylene	180 U	4790	8690	55	4390	9090	48	10-102	9	30
Acetophenone	250 U	8970	17400	52	8510	18200	47	12-99	5	30
Anthracene	150 U	5050	8690	58	4760	9090	52	10-129	6	30
Atrazine	120 U	5250	8690	60	4860	9090	53	15-133	8	30
Benz(a)anthracene	160 J	5040	8690	56	5040	9090	54	10-122	<1	30
Benzaldehyde	340 J	5040	8690	54	4730	9090	48	10-103	6	30
Benzo(a)pyrene	230 U	6560	8690	75	6490	9090	71	10-122	1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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QA/QC Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	N/A
Sample Matrix:	Soil	**Date Received:**	N/A
		Date Analyzed:	02/18/21
		Date Extracted:	02/17/21

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Sample Name:	Batch QC	**Units:**	ug/Kg
Lab Code:	R2101317-001	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3546		

		Matrix Spike RQ2101599-04			Duplicate Matrix Spike RQ2101599-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzo(b)fluoranthene	150 U	5060	8690	58	5000	9090	55	10-112	1	30
Benzo(g,h,i)perylene	200 U	5780	8690	67	5500	9090	61	10-136	5	30
Benzo(k)fluoranthene	140 U	5290	8690	61	5290	9090	58	10-112	<1	30
Biphenyl	260 U	4550	8690	52	4100	9090	45	10-99	11	30
2,2'-Oxybis(1-chloropropane)	180 U	4450	8690	51	3870	9090	43	10-87	14	30
Bis(2-chloroethoxy)methane	210 U	4510	8690	52	4200	9090	46	16-93	7	30
Bis(2-chloroethyl) Ether	170 U	5190	8690	60	4470	9090	49	10-79	15	30
Bis(2-ethylhexyl) Phthalate	190 J	5310	8690	59	5150	9090	55	10-116	3	30
Butyl Benzyl Phthalate	110 U	4950	8690	57	4970	9090	55	10-128	<1	30
Caprolactam	190 U	4320	8690	50	4530	9090	50	10-112	5	30
Carbazole	140 U	5400	8690	62	5550	9090	61	10-138	3	30
Chrysene	140 J	5360	8690	60	5180	9090	56	10-113	3	30
Di-n-butyl Phthalate	140 U	5500	8690	63	5610	9090	62	10-119	2	30
Di-n-octyl Phthalate	300 U	5140	8690	59	5210	9090	57	10-121	1	30
Dibenz(a,h)anthracene	190 U	5730	8690	66	5540	9090	61	10-130	3	30
Dibenzofuran	160 U	4740	8690	55	4320	9090	47	10-102	9	30
Diethyl Phthalate	160 U	4430	8690	51	4130	9090	45	10-101	7	30
Dimethyl Phthalate	170 U	4520	8690	52	4230	9090	46	10-113	7	30
Fluoranthene	240 J	5350	8690	59	5380	9090	56	10-125	<1	30
Fluorene	260 J	5020	8690	55	4550	9090	47	10-109	10	30
Hexachlorobenzene	210 U	5400	8690	62	5130	9090	56	10-106	5	30
Hexachlorobutadiene	150 U	3910	8690	45	2980	9090	33	10-142	27	30
Hexachlorocyclopentadiene	280 U	280 U	8690	0 *	290 U	9090	0 *	10-133	NC	30
Hexachloroethane	170 U	170 U	8690	0 *	170 U	9090	0 *	10-129	NC	30
Indeno(1,2,3-cd)pyrene	280 U	5830	8690	67	5800	9090	64	10-124	<1	30
Isophorone	180 U	3980	8690	46	3790	9090	42	10-81	5	30
N-Nitrosodi-n-propylamine	270 U	4870	8690	56	4600	9090	51	10-76	6	30
N-Nitrosodiphenylamine	540 U	5400	8690	62	5200	9090	57	10-114	4	30
Naphthalene	170 U	4620	8690	53	4090	9090	45	10-89	12	30
Nitrobenzene	160 U	499 J	8690	6 *	682 J	9090	8 *	10-77	31*	30
Pentachlorophenol (PCP)	860 U	2430 J	8690	28	2410 J	9090	26	10-118	<1	30
Phenanthrene	170 J	5020	8690	56	4640	9090	49	10-137	8	30
Phenol	520 J	5160	8690	53	5030	9090	50	10-144	2	30

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ALS Group USA, Corp.
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QA/QC Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	N/A
Sample Matrix:	Soil	**Date Received:**	N/A
		Date Analyzed:	02/18/21
		Date Extracted:	02/17/21

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Sample Name:	Batch QC	**Units:**	ug/Kg
Lab Code:	R2101317-001	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3546		

		Matrix Spike RQ2101599-04			Duplicate Matrix Spike RQ2101599-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Pyrene	230 J	5610	8690	62	5540	9090	58	10-118	1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101599-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	74 U	320	74	1	02/18/21 12:38	2/17/21	
2,3,4,6-Tetrachlorophenol	120 U	320	120	1	02/18/21 12:38	2/17/21	
2,4,5-Trichlorophenol	82 U	320	82	1	02/18/21 12:38	2/17/21	
2,4,6-Trichlorophenol	74 U	320	74	1	02/18/21 12:38	2/17/21	
2,4-Dichlorophenol	64 U	320	64	1	02/18/21 12:38	2/17/21	
2,4-Dimethylphenol	59 U	320	59	1	02/18/21 12:38	2/17/21	
2,4-Dinitrophenol	560 U	1700	560	1	02/18/21 12:38	2/17/21	
2,4-Dinitrotoluene	130 U	320	130	1	02/18/21 12:38	2/17/21	
2,6-Dinitrotoluene	72 U	320	72	1	02/18/21 12:38	2/17/21	
2-Chloronaphthalene	66 U	320	66	1	02/18/21 12:38	2/17/21	
2-Chlorophenol	55 U	320	55	1	02/18/21 12:38	2/17/21	
2-Methylnaphthalene	55 U	320	55	1	02/18/21 12:38	2/17/21	
2-Methylphenol	69 U	320	69	1	02/18/21 12:38	2/17/21	
2-Nitroaniline	78 U	1700	78	1	02/18/21 12:38	2/17/21	
2-Nitrophenol	77 U	320	77	1	02/18/21 12:38	2/17/21	
3,3'-Dichlorobenzidine	37 U	320	37	1	02/18/21 12:38	2/17/21	
3- and 4-Methylphenol Coelution	63 U	320	63	1	02/18/21 12:38	2/17/21	
3-Nitroaniline	67 U	1700	67	1	02/18/21 12:38	2/17/21	
4,6-Dinitro-2-methylphenol	190 U	1700	190	1	02/18/21 12:38	2/17/21	
4-Bromophenyl Phenyl Ether	87 U	320	87	1	02/18/21 12:38	2/17/21	
4-Chloro-3-methylphenol	67 U	320	67	1	02/18/21 12:38	2/17/21	
4-Chloroaniline	56 U	320	56	1	02/18/21 12:38	2/17/21	
4-Chlorophenyl Phenyl Ether	71 U	320	71	1	02/18/21 12:38	2/17/21	
4-Nitroaniline	34 U	1700	34	1	02/18/21 12:38	2/17/21	
4-Nitrophenol	67 U	1700	67	1	02/18/21 12:38	2/17/21	
Acenaphthene	63 U	320	63	1	02/18/21 12:38	2/17/21	
Acenaphthylene	67 U	320	67	1	02/18/21 12:38	2/17/21	
Acetophenone	95 U	320	95	1	02/18/21 12:38	2/17/21	
Anthracene	55 U	320	55	1	02/18/21 12:38	2/17/21	
Atrazine	46 U	320	46	1	02/18/21 12:38	2/17/21	
Benz(a)anthracene	49 U	320	49	1	02/18/21 12:38	2/17/21	
Benzaldehyde	80 U	1700	80	1	02/18/21 12:38	2/17/21	
Benzo(a)pyrene	88 U	320	88	1	02/18/21 12:38	2/17/21	
Benzo(b)fluoranthene	55 U	320	55	1	02/18/21 12:38	2/17/21	
Benzo(g,h,i)perylene	76 U	320	76	1	02/18/21 12:38	2/17/21	
Benzo(k)fluoranthene	54 U	320	54	1	02/18/21 12:38	2/17/21	
Biphenyl	98 U	320	98	1	02/18/21 12:38	2/17/21	
2,2'-Oxybis(1-chloropropane)	68 U	320	68	1	02/18/21 12:38	2/17/21	
Bis(2-chloroethoxy)methane	81 U	320	81	1	02/18/21 12:38	2/17/21	
Bis(2-chloroethyl) Ether	65 U	320	65	1	02/18/21 12:38	2/17/21	
Bis(2-ethylhexyl) Phthalate	61 U	490	61	1	02/18/21 12:38	2/17/21	
Butyl Benzyl Phthalate	40 U	320	40	1	02/18/21 12:38	2/17/21	
Caprolactam	73 U	320	73	1	02/18/21 12:38	2/17/21	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101599-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	54 U	320	54	1	02/18/21 12:38	2/17/21	
Chrysene	49 U	320	49	1	02/18/21 12:38	2/17/21	
Di-n-butyl Phthalate	54 U	320	54	1	02/18/21 12:38	2/17/21	
Di-n-octyl Phthalate	120 U	320	120	1	02/18/21 12:38	2/17/21	
Dibenz(a,h)anthracene	72 U	320	72	1	02/18/21 12:38	2/17/21	
Dibenzofuran	60 U	320	60	1	02/18/21 12:38	2/17/21	
Diethyl Phthalate	59 U	320	59	1	02/18/21 12:38	2/17/21	
Dimethyl Phthalate	63 U	320	63	1	02/18/21 12:38	2/17/21	
Fluoranthene	83 U	320	83	1	02/18/21 12:38	2/17/21	
Fluorene	62 U	320	62	1	02/18/21 12:38	2/17/21	
Hexachlorobenzene	79 U	320	79	1	02/18/21 12:38	2/17/21	
Hexachlorobutadiene	57 U	320	57	1	02/18/21 12:38	2/17/21	
Hexachlorocyclopentadiene	110 U	320	110	1	02/18/21 12:38	2/17/21	
Hexachloroethane	62 U	320	62	1	02/18/21 12:38	2/17/21	
Indeno(1,2,3-cd)pyrene	110 U	320	110	1	02/18/21 12:38	2/17/21	
Isophorone	69 U	320	69	1	02/18/21 12:38	2/17/21	
N-Nitrosodi-n-propylamine	110 U	320	110	1	02/18/21 12:38	2/17/21	
N-Nitrosodiphenylamine	210 U	320	210	1	02/18/21 12:38	2/17/21	
Naphthalene	62 U	320	62	1	02/18/21 12:38	2/17/21	
Nitrobenzene	59 U	320	59	1	02/18/21 12:38	2/17/21	
Pentachlorophenol (PCP)	330 U	1700	330	1	02/18/21 12:38	2/17/21	
Phenanthrene	47 U	320	47	1	02/18/21 12:38	2/17/21	
Phenol	67 U	320	67	1	02/18/21 12:38	2/17/21	
Pyrene	55 U	320	55	1	02/18/21 12:38	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	84	10 - 109	02/18/21 12:38	
2-Fluorobiphenyl	71	10 - 102	02/18/21 12:38	
2-Fluorophenol	75	10 - 88	02/18/21 12:38	
Nitrobenzene-d5	73	10 - 95	02/18/21 12:38	
Phenol-d6	73	10 - 145	02/18/21 12:38	
Terphenyl-d14	90	10 - 106	02/18/21 12:38	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/18/21

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2101599-02			RQ2101599-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	8270D	2120	3340	63	2560	3340	77	10-115	19	30
2,3,4,6-Tetrachlorophenol	8270D	2320	3330	70	2670	3330	80	29-100	14	30
2,4,5-Trichlorophenol	8270D	2230	3330	67	2560	3330	77	29-97	14	30
2,4,6-Trichlorophenol	8270D	2180	3330	65	2590	3330	78	26-97	17	30
2,4-Dichlorophenol	8270D	2050	3330	62	2380	3330	71	25-90	15	30
2,4-Dimethylphenol	8270D	2120	3330	64	2460	3330	74	26-89	15	30
2,4-Dinitrophenol	8270D	1350 J	3330	41	1660 J	3330	50	10-128	20	30
2,4-Dinitrotoluene	8270D	2600	3330	78	2930	3330	88	30-111	12	30
2,6-Dinitrotoluene	8270D	2420	3330	73	2790	3330	84	28-105	14	30
2-Chloronaphthalene	8270D	2210	3330	66	2590	3330	78	21-88	16	30
2-Chlorophenol	8270D	2020	3330	61	2350	3330	70	18-87	15	30
2-Methylnaphthalene	8270D	2060	3330	62	2400	3330	72	21-83	15	30
2-Methylphenol	8270D	2230	3330	67	2580	3330	77	22-86	15	30
2-Nitroaniline	8270D	2570	3330	77	2900	3330	87	27-105	12	30
2-Nitrophenol	8270D	2100	3330	63	2400	3330	72	20-88	13	30
3- and 4-Methylphenol Coelution	8270D	2220	3330	67	2590	3330	78	27-92	15	30
3-Nitroaniline	8270D	1930	3330	58	2090	3330	63	27-98	8	30
4,6-Dinitro-2-methylphenol	8270D	1860	3330	56	2080	3330	62	11-96	11	30
4-Bromophenyl Phenyl Ether	8270D	2290	3330	69	2620	3330	78	25-96	13	30
4-Chloro-3-methylphenol	8270D	2130	3330	64	2390	3330	72	29-92	11	30
4-Chloroaniline	8270D	1560	3330	47	1630	3330	49	21-72	5	30
4-Chlorophenyl Phenyl Ether	8270D	2240	3330	67	2590	3330	78	25-92	14	30
4-Nitroaniline	8270D	2520	3330	76	2860	3330	86	27-102	13	30
4-Nitrophenol	8270D	2260	3330	68	2430	3330	73	10-130	7	30
Acenaphthene	8270D	2230	3330	67	2580	3330	77	25-92	15	30
Acenaphthylene	8270D	2330	3330	70	2700	3330	81	27-93	15	30
Acetophenone	8270D	3750	6670	56	4390	6670	66	23-87	16	30
Anthracene	8270D	2450	3330	73	2710	3330	81	32-106	10	30
Benz(a)anthracene	8270D	2540	3330	76	2670	3330	80	33-109	5	30
Benzo(a)pyrene	8270D	3470	3330	104	3630	3330	109	34-115	4	30
Benzo(b)fluoranthene	8270D	2610	3330	78	2710	3330	81	31-107	4	30
Benzo(g,h,i)perylene	8270D	3080	3330	92	3190	3330	96	30-127	4	30
Benzo(k)fluoranthene	8270D	2790	3330	84	2960	3330	89	34-111	6	30

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/18/21

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS using Microwave Digestion

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2101599-02			RQ2101599-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	8270D	2060	3330	62	2420	3330	73	26-88	16	30
2,2'-Oxybis(1-chloropropane)	8270D	2110	3330	63	2460	3330	74	10-82	15	30
Bis(2-chloroethoxy)methane	8270D	2320	3330	70	2670	3330	80	17-85	14	30
Bis(2-chloroethyl) Ether	8270D	2180	3330	66	2540	3330	76	10-79	15	30
Bis(2-ethylhexyl) Phthalate	8270D	2720	3330	82	2830	3330	85	31-115	4	30
Butyl Benzyl Phthalate	8270D	2820	3330	84	2920	3330	88	31-115	4	30
Caprolactam	8270D	2230	3330	67	2640	3330	79	28-99	17	30
Carbazole	8270D	2650	3330	79	2830	3330	85	23-129	7	30
Chrysene	8270D	2620	3330	79	2780	3330	83	34-108	6	30
Di-n-butyl Phthalate	8270D	2770	3330	83	2910	3330	87	33-114	5	30
Di-n-octyl Phthalate	8270D	2690	3330	81	2790	3330	84	32-116	4	30
Dibenz(a,h)anthracene	8270D	3100	3330	93	3240	3330	97	23-122	4	30
Dibenzofuran	8270D	2230	3330	67	2550	3330	77	27-94	13	30
Diethyl Phthalate	8270D	2220	3330	67	2530	3330	76	26-101	13	30
Dimethyl Phthalate	8270D	2260	3330	68	2560	3330	77	27-98	12	30
Fluoranthene	8270D	2510	3330	75	2650	3330	79	34-111	5	30
Fluorene	8270D	2310	3330	69	2620	3330	79	27-95	13	30
Hexachlorobenzene	8270D	2510	3330	75	2750	3330	83	30-104	9	30
Hexachlorobutadiene	8270D	2060	3330	62	2340	3330	70	10-142	13	30
Hexachlorocyclopentadiene	8270D	2170	3330	65	2510	3330	75	10-133	15	30
Hexachloroethane	8270D	1910	3330	57	2180	3330	66	10-129	13	30
Indeno(1,2,3-cd)pyrene	8270D	3110	3330	93	3270	3330	98	33-121	5	30
Isophorone	8270D	1810	3330	54	2090	3330	63	21-79	14	30
N-Nitrosodi-n-propylamine	8270D	2230	3330	67	2590	3330	78	15-78	15	30
N-Nitrosodiphenylamine	8270D	2520	3330	76	2870	3330	86	29-108	13	30
Naphthalene	8270D	2100	3330	63	2410	3330	72	18-81	14	30
Nitrobenzene	8270D	2080	3330	63	2470	3330	74	14-80	17	30
Pentachlorophenol (PCP)	8270D	2430	3330	73	2740	3330	82	13-117	12	30
Phenanthrene	8270D	2340	3330	70	2590	3330	78	33-103	10	30
Phenol	8270D	2160	3330	65	2550	3330	76	10-144	17	30
Pyrene	8270D	2710	3330	81	2960	3330	89	33-111	9	30

Semivolatile Organic Compounds by GC

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl 10-145	Tetrachloro-m-xylene 10-123
TK-SD-PT12-0211	R2101321-001	0*	0*
TK-SD-PT12-0211 RE	R2101321-001	0*	0*
TK-SD-ST02-0211	R2101321-002	75	51
Method Blank	RQ2101498-01	101	81
Lab Control Sample	RQ2101498-02	103	82
Duplicate Lab Control Sample	RQ2101498-03	94	80

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101498-01	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
4,4'-DDE	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
4,4'-DDT	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Aldrin	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Dieldrin	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endosulfan I	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endosulfan II	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endosulfan Sulfate	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endrin	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endrin Aldehyde	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Endrin Ketone	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Heptachlor	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Heptachlor Epoxide	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Methoxychlor	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
Toxaphene	19 U	33	19	1	02/19/21 03:44	2/16/21	
alpha-BHC	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
alpha-Chlordane	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
beta-BHC	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
delta-BHC	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
gamma-BHC (Lindane)	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	
gamma-Chlordane	0.84 U	1.7	0.84	1	02/19/21 03:44	2/16/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	101	10 - 145	02/19/21 03:44	
Tetrachloro-m-xylene	81	10 - 123	02/19/21 03:44	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/19/21

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2101498-02			RQ2101498-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	8081B	6.33	6.84	93	5.79	6.61	88	33-149	9	30
4,4'-DDE	8081B	6.64	6.84	97	5.97	6.61	90	38-147	11	30
4,4'-DDT	8081B	6.72	6.84	98	6.13	6.61	93	37-146	9	30
Aldrin	8081B	6.06	6.84	89	5.43	6.61	82	25-146	11	30
Dieldrin	8081B	6.43	6.84	94	6.08	6.61	92	40-140	6	30
Endosulfan I	8081B	6.35	6.84	93	5.65	6.61	86	35-116	12	30
Endosulfan II	8081B	6.74	6.84	99	6.10	6.61	92	39-122	10	30
Endosulfan Sulfate	8081B	6.34	6.84	93	6.20	6.61	94	31-132	2	30
Endrin	8081B	6.42	6.84	94	5.86	6.61	89	40-144	9	30
Endrin Aldehyde	8081B	6.15	6.84	90	5.58	6.61	84	10-109	10	30
Endrin Ketone	8081B	6.64	6.84	97	6.05	6.61	92	38-122	9	30
Heptachlor	8081B	6.19	6.84	91	5.50	6.61	83	34-142	12	30
Heptachlor Epoxide	8081B	6.34	6.84	93	5.72	6.61	87	37-113	10	30
Methoxychlor	8081B	7.04	6.84	103	6.55	6.61	99	41-152	7	30
alpha-BHC	8081B	6.02	6.84	88	5.37	6.61	81	28-145	11	30
alpha-Chlordane	8081B	6.25	6.84	91	5.66	6.61	86	37-114	10	30
beta-BHC	8081B	6.38	6.84	93	5.95	6.61	90	38-144	7	30
delta-BHC	8081B	6.47	6.84	95	5.80	6.61	88	30-153	11	30
gamma-BHC (Lindane)	8081B	5.91	6.84	86	5.46	6.61	83	32-145	8	30
gamma-Chlordane	8081B	6.14	6.84	90	5.50	6.61	83	34-123	11	30

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl 22-128	Tetrachloro-m-xylene 14-119
TK-SD-PT12-0211	R2101321-001	4*	8*
TK-SD-PT12-0211 RE	R2101321-001	6*	11*
TK-SD-ST02-0211	R2101321-002	72	45
Method Blank	RQ2101498-01	100	72
Method Blank	RQ2101920-01	75	67
Lab Control Sample	RQ2101498-04	101	71
Duplicate Lab Control Sample	RQ2101498-05	113	112
Lab Control Sample	RQ2101920-02	75	67
Duplicate Lab Control Sample	RQ2101920-03	67	62

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101498-01	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	17 U	32	17	1	02/17/21 20:06	2/16/21	
Aroclor 1221	17 U	65	17	1	02/17/21 20:06	2/16/21	
Aroclor 1232	17 U	32	17	1	02/17/21 20:06	2/16/21	
Aroclor 1242	17 U	32	17	1	02/17/21 20:06	2/16/21	
Aroclor 1248	17 U	32	17	1	02/17/21 20:06	2/16/21	
Aroclor 1254	17 U	32	17	1	02/17/21 20:06	2/16/21	
Aroclor 1260	17 U	32	17	1	02/17/21 20:06	2/16/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	100	22 - 128	02/17/21 20:06	
Tetrachloro-m-xylene	72	14 - 119	02/17/21 20:06	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101920-01	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	18 U	33	18	1	02/26/21 14:09	2/25/21	
Aroclor 1221	18 U	67	18	1	02/26/21 14:09	2/25/21	
Aroclor 1232	18 U	33	18	1	02/26/21 14:09	2/25/21	
Aroclor 1242	18 U	33	18	1	02/26/21 14:09	2/25/21	
Aroclor 1248	18 U	33	18	1	02/26/21 14:09	2/25/21	
Aroclor 1254	18 U	33	18	1	02/26/21 14:09	2/25/21	
Aroclor 1260	18 U	33	18	1	02/26/21 14:09	2/25/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	75	22 - 128	02/26/21 14:09	
Tetrachloro-m-xylene	67	14 - 119	02/26/21 14:09	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/17/21

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample RQ2101498-04			Duplicate Lab Control Sample RQ2101498-05				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	8082A	130	162	80	152	166	92	41-127	16	30
Aroclor 1260	8082A	145	162	89	170	166	102	37-127	16	30

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/26/21

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ2101920-02			RQ2101920-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	8082A	128	171	75	112	167	67	41-127	13	30
Aroclor 1260	8082A	132	171	77	112	167	67	37-127	17	30

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101321
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Chlorinated Herbicides by GC

Analysis Method: 8151A
Extraction Method: Method

Sample Name	Lab Code	2,4-Dichlorophenylacetic Acid 10-151
TK-SD-PT12-0211	R2101321-001	488*
TK-SD-ST02-0211	R2101321-002	2*
TK-SD-ST02-0211 RE	R2101321-002	22
Method Blank	RQ2101693-07	43
Method Blank	RQ2101916-01	65
Lab Control Sample	RQ2101693-08	61
Duplicate Lab Control Sample	RQ2101693-09	69
Lab Control Sample	RQ2101916-02	77
Duplicate Lab Control Sample	RQ2101916-03	71

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101693-07	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	5.0 U	10	5.0	1	02/23/21 17:09	2/19/21	
2,4,5-TP	4.5 U	10	4.5	1	02/23/21 17:09	2/19/21	
2,4-D	6.5 U	10	6.5	1	02/23/21 17:09	2/19/21	
Dicamba	3.1 U	10	3.1	1	02/23/21 17:09	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	43	10 - 151	02/23/21 17:09	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ2101916-01	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	5.1 U	10	5.1	1	02/26/21 14:11	2/25/21	
2,4,5-TP	4.6 U	10	4.6	1	02/26/21 14:11	2/25/21	
2,4-D	6.6 U	10	6.6	1	02/26/21 14:11	2/25/21	
Dicamba	3.2 U	10	3.2	1	02/26/21 14:11	2/25/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	65	10 - 151	02/26/21 14:11	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/23/21

Duplicate Lab Control Sample Summary
Chlorinated Herbicides by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample		Duplicate Lab Control Sample					
			RQ2101693-08		RQ2101693-09					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4,5-T	8151A	24.3	50.0	49	30.6	50.0	61	19-127	23	30
2,4,5-TP	8151A	26.4	50.0	53	32.4	50.0	65	18-122	20	30
2,4-D	8151A	25.8	50.0	52	33.4	50.0	67	24-165	26	30
Dicamba	8151A	24.2	50.0	48	29.5	50.0	59	26-128	20	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/26/21

Duplicate Lab Control Sample Summary
Chlorinated Herbicides by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample		Duplicate Lab Control Sample					
			RQ2101916-02		RQ2101916-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4,5-T	8151A	30.6	50.2	61	31.5	50.0	63	19-127	3	30
2,4,5-TP	8151A	36.7	50.2	73	38.0	50.0	76	18-122	3	30
2,4-D	8151A	35.4	50.2	70	35.6	50.0	71	24-165	<1	30
Dicamba	8151A	28.4	50.2	57	28.7	50.0	57	26-128	1	30

Metals

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METALS

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BLANKS

Contract: R2101321

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): MG/KG

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	120.00	U	120.00	U	120.00	U	120.00	U	12.000	U	P
Antimony	5.40	U	5.40	U	5.40	U	5.40	U	0.540	U	P
Arsenic	7.00	U	7.00	U	7.00	U	7.00	U	0.700	U	P
Barium	15.00	U	15.00	U	15.00	U	15.00	U	1.500	U	P
Beryllium	0.60	U	0.60	U	0.60	U	0.60	U	0.060	U	P
Cadmium	2.40	U	2.40	U	2.40	U	2.40	U	0.240	U	P
Mercury	0.078	U	0.078	U	0.078	U	0.078	U	0.013	U	CV
Calcium	320.00	U	320.00	U	320.00	U	320.00	U	32.000	U	P
Chromium	3.50	U	3.50	U	3.50	U	3.50	U	0.350	U	P
Cobalt	4.60	U	4.60	U	4.60	U	4.60	U	0.460	U	P
Copper	6.30	U	6.30	U	6.30	U	6.30	U	0.630	U	P
Iron	130.00	U	130.00	U	130.00	U	130.00	U	13.000	U	P
Lead	4.00	U	4.00	U	4.00	U	4.00	U	0.400	U	P
Magnesium	130.00	U	130.00	U	130.00	U	130.00	U	13.000	U	P
Manganese	15.00	U	15.00	U	15.00	U	15.00	U	1.500	U	P
Nickel	6.60	U	6.60	U	6.60	U	6.60	U	0.660	U	P
Potassium	500.00	U	500.00	U	500.00	U	500.00	U	50.000	U	P
Selenium	5.40	U	5.40	U	5.40	U	5.40	U	0.540	U	P
Silver	0.90	U	0.90	U	0.90	U	0.90	U	0.090	U	P
Sodium	520.00	U	520.00	U	520.00	U	520.00	U	52.000	U	P
Thallium	6.50	U	6.50	U	6.50	U	6.50	U	0.650	U	P
Vanadium	7.10	U	7.10	U	7.10	U	7.10	U	0.710	U	P
Zinc	14.00	U	14.00	U	14.00	U	14.00	U	1.400	U	P

Comments:

METALS

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BLANKS

Contract: R2101321

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum			120.00	U	120.00	U	120.00	U			P
Antimony			5.40	U	5.40	U	5.40	U			P
Arsenic			7.00	U	7.00	U	7.00	U			P
Barium			15.00	U	15.00	U	15.00	U			P
Beryllium			0.60	U	0.60	U	0.60	U			P
Cadmium			2.40	U	2.40	U	2.40	U			P
Mercury			0.078	U	0.078	U					CV
Calcium			320.00	U	320.00	U	320.00	U			P
Chromium			3.50	U	3.50	U	3.50	U			P
Cobalt			4.60	U	4.60	U	4.60	U			P
Copper			6.30	U	6.30	U	6.30	U			P
Iron			130.00	U	130.00	U	130.00	U			P
Lead			4.00	U	4.00	U	4.00	U			P
Magnesium			130.00	U	130.00	U	130.00	U			P
Manganese			15.00	U	15.00	U	15.00	U			P
Nickel			6.60	U	6.60	U	6.60	U			P
Potassium			500.00	U	500.00	U	500.00	U			P
Selenium			5.40	U	5.40	U	5.40	U			P
Silver			0.90	U	0.90	U	0.90	U			P
Sodium			520.00	U	520.00	U	520.00	U			P
Thallium			6.50	U	-6.50	J	-7.50	J			P
Vanadium			7.10	U	7.10	U	7.10	U			P
Zinc			14.00	U	14.00	U	14.00	U			P

Comments:

METALS

-3-

BLANKS

Contract: R2101321

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum			120.00	U							P
Antimony			5.60	J							P
Arsenic			7.00	U							P
Barium			15.00	U							P
Beryllium			0.60	U							P
Cadmium			2.40	U							P
Calcium			320.00	U							P
Chromium			3.50	U							P
Cobalt			4.60	U							P
Copper			6.30	U							P
Iron			130.00	U							P
Lead			4.00	U							P
Magnesium			130.00	U							P
Manganese			15.00	U							P
Nickel			6.60	U							P
Potassium			500.00	U							P
Selenium			5.40	U							P
Silver			0.90	U							P
Sodium			520.00	U							P
Thallium			6.50	U							P
Vanadium			7.10	U							P
Zinc			14.00	U							P

Comments:

METALS

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LABORATORY CONTROL SAMPLE

Contract: R2101321

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Solid LCS Source: CPI

Aqueous LCS Source:

Analyte	Aqueous (ug/L True	Found	%R	Solid (mg/K True	Found	C	Limits		%R
Aluminum				200	195.11		160	240	98
Antimony				50	46.57		40	60	93
Arsenic				4	4.39		3.2	4.8	110
Barium				200	203.52		160	240	102
Beryllium				5	4.92		4	6	98
Cadmium				5	5.04		4	6	101
Mercury				0.166	0.18		.133	.199	108
Calcium				200	202.68		160	240	101
Chromium				20	20.38		16	24	102
Cobalt				50	50.49		40	60	101
Copper				25	24.85		20	30	99
Iron				100	100.94		80	120	101
Lead				50	50.21		40	60	100
Magnesium				200	196.10		160	240	98
Manganese				50	49.41		40	60	99
Nickel				50	50.36		40	60	101
Potassium				2000	1916.18		1600	2400	96
Selenium				101	88.46		80.8	121	88
Silver				5	4.75		4	6	95
Sodium				2000	1962.24		1600	2400	98
Thallium				200	181.78		160	240	91
Vanadium				50	49.62		40	60	99
Zinc				50	48.55		40	60	97

Comments: _____

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	R2101321-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	3.1	U	mg/Kg	5.0	3.1	1	02/23/21 16:17	02/22/21	
Cyanide, Total	9012B	0.17	U	mg/Kg	0.30	0.17	1	02/19/21 12:57	02/18/21	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Inventum Engineering	**Service Request:**	R2101321
Project	RITC Tanks	**Date Collected:**	02/11/21
Sample Matrix:	Soil	**Date Received:**	02/12/21
		Date Analyzed:	02/19/21

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	TK-SD-PT12-0211	**Units:**	Percent
Lab Code:	R2101321-001	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample R2101321-001DUP Result	Average	RPD	RPD Limit
Total Solids	ALS SOP	-	-	83.8	86.0	84.9	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/19/21 - 02/23/21

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R2101321-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen, undistilled	350.1M	25.0	25.0	100	69-142
Cyanide, Total	9012B	3.14	3.00	105	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101321
Date Analyzed: 02/19/21

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R2101321-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	17.8	18.0	99	85-115

March 23, 2021 Service Request No:R2101322

Mr. John Black
Inventum Engineering
481 Carlisle Drive
Herndon, VA 20170

Laboratory Results for: RITC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory February 12, 2021
For your reference, these analyses have been assigned our service request number **R2101322.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

Narrative Documents

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Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101322
Date Received: 02/12/2021

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two soil samples were received for analysis at ALS Environmental on 02/12/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

Semivoa GC:

Method 8081B, 02/18/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B: The upper control limit was exceeded for one or more surrogates in one or more samples in this report. The elevated recovery equates to a high bias. Since no target analytes were detected in the sample(s), the quality of the sample data is not significantly affected. No further corrective action was appropriate.

Method 8151A, 02/18/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8151A, 02/18/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Metals:

No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

No significant anomalies were noted with this analysis.

Approved by _____ Date 03/23/2021

Sample Receipt Information

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Inventum Engineering **Service Request:**R2101322
Project: RITC Tanks

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2101322-001	TK-SD-PT12-0211	2/11/2021	1400
R2101322-002	TK-SD-ST02-0211	2/11/2021	1100

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

003771

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE _____ OF _____

Project Name: RITC TANKS	Project Number:
Project Manager: JOHN BLACK	Report CC:
Company/Address: INVENTUM ENGINEERING 481 CARLISLE DR. #202 HERNDON, VA 20170	
Phone #: 5712767761	Email: john.black@inventumeng.com
Sampler's Signature:	Sampler's Printed Name: J. BLACK

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs 8260 • 624 • CLP	GC/MS SVOAs 8270 • 625	GC VOAs 8021 • 601/602	PESTICIDES 8081 • 608	PCBs 8082 • 608	METALS, TOTAL (List in comments below) TAL	METALS, DISSOLVED (List in comments below)	FULL TCLP	CYANIDE	Ammonia	CORROSIVITY	REACTIVES	FLAMMABLES	PCBs	REMARKS/ ALTERNATE DESCRIPTION
TK-LQ-PT04-0211		2/11/21	1000	LQ	8	1	1		1	1	1	1	1	1	1	1	1	1	1	LIGHT OIL BTEX
TK-SD-PT12-0211		2/11/21	200	SD	8	1	1		1	1	1	1	1	1	1	1	1	1	1	
TK-LQ-ST01-0211		2/10/21	10:15	LQ	8	1	1		1	1	1	1	1	1	1	1	1	1	1	
TK-SD-ST02-0211		2/10/21	1100	SD	8	1	1		1	1	1	1	1	1	1	1	1	1	1	CAUSTICS

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: NY

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
✓ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: 2/22/21

REPORT REQUIREMENTS
_____ I. Results Only
_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
✓ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data
NYSDEC + HONEYWELL
Edata ✓ Yes _____ No

INVOICE INFORMATION
PO #
BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature: Keith James	Signature: Keith James	Signature:	Signature:	Signature:
Printed Name: John Black	Printed Name: Keith James	Printed Name: Keith James	Printed Name:	Printed Name:	
Firm: Inventum	Firm: ALS	Firm: ALS	Firm:	Firm:	
Date/Time: 2/12/21 10AM	Date/Time: 2-12-21 11:07	Date/Time: 2-12-21 15.30	Date/Time: 2/12/21 1530	Date/Time:	

R2101322 5
Inventum Engineering
RITC Tanks

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R2101322 **5**
Inventum Engineering
RITC Tanks

Project/Client Inventum Folder Number

Cooler received on 2/12/21 by: @

COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)
2	**Custody papers** properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N
4	Circle: (Wet Ice) **Dry Ice Gel packs** present?	(Y) N

5a	**Perchlorate** samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y N (NA)
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: (Bulk) Encore 5035set NA	

3. Temperature Readings Date: 2/12/21 Time: 1535 ID: IR#7 (IR#10) From: ~~Temp Blank~~ (~~Sample Bottle~~)

Observed Temp (°C)	9.8						
Within 0-6°C?	Y (N)	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by @ on 2/12/21 at 1540
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 2/13/21 Time: 0925 by: AW

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 07320-1TW

Explain all Discrepancies/ Other Comments:

HPROD	BULK
HTR	FLDT
(SUB)	HGFB
ALS	LL3541

Labels secondary reviewed by: AL

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Analyst Summary report

Client: Inventum Engineering
Project: RITC Tanks/
Service Request: R2101322

Sample Name: TK-SD-PT12-0211
Lab Code: R2101322-001
Sample Matrix: Soil
Date Collected: 02/11/21
Date Received: 02/12/21

Analysis Method	Extracted/Digested By	Analyzed By
6010C	AKONZEL	KMCLAEN
7470A	AKONZEL	AKONZEL
8081B	KSERCU	BALLGEIER
8151A	KSERCU	BALLGEIER
8270D	KSERCU	JMISIUREWICZ

Sample Name: TK-SD-ST02-0211
Lab Code: R2101322-002
Sample Matrix: Soil
Date Collected: 02/11/21
Date Received: 02/12/21

Analysis Method	Extracted/Digested By	Analyzed By
6010C	AKONZEL	KMCLAEN
7470A	AKONZEL	AKONZEL
8081B	KSERCU	BALLGEIER
8151A	KSERCU	BALLGEIER
8270D	KSERCU	JMISIUREWICZ

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

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Semivolatile Organic Compounds by GC/MS

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/L
Lab Code:	R2101322-001	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dichlorobenzene	4.8 U	400	4.8	1	02/19/21 16:58	2/17/21	
2,4,5-Trichlorophenol	4.4 U	400	4.4	1	02/19/21 16:58	2/17/21	
2,4,6-Trichlorophenol	5.6 U	400	5.6	1	02/19/21 16:58	2/17/21	
2,4-Dinitrotoluene	9.6 U	400	9.6	1	02/19/21 16:58	2/17/21	
2-Methylphenol	**44 J**	400	4.0	1	02/19/21 16:58	2/17/21	
3- and 4-Methylphenol Coelution	**33 J**	400	4.8	1	02/19/21 16:58	2/17/21	
Hexachlorobenzene	6.4 U	400	6.4	1	02/19/21 16:58	2/17/21	
Hexachlorobutadiene	4.0 U	400	4.0	1	02/19/21 16:58	2/17/21	
Hexachloroethane	4.4 U	400	4.4	1	02/19/21 16:58	2/17/21	
Nitrobenzene	6.0 U	400	6.0	1	02/19/21 16:58	2/17/21	
Pentachlorophenol (PCP)	39 U	2000	39	1	02/19/21 16:58	2/17/21	
Pyridine	**61 J**	2000	4.0	1	02/19/21 16:58	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	105	35 - 141	02/19/21 16:58	
2-Fluorobiphenyl	70	31 - 118	02/19/21 16:58	
2-Fluorophenol	47	10 - 105	02/19/21 16:58	
Nitrobenzene-d5	68	31 - 110	02/19/21 16:58	
Phenol-d6	34	10 - 107	02/19/21 16:58	
p-Terphenyl-d14	113	10 - 165	02/19/21 16:58	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/L
Lab Code:	R2101322-002	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dichlorobenzene	4.8 U	400	4.8	1	02/19/21 17:26	2/17/21	
2,4,5-Trichlorophenol	4.4 U	400	4.4	1	02/19/21 17:26	2/17/21	
2,4,6-Trichlorophenol	5.6 U	400	5.6	1	02/19/21 17:26	2/17/21	
2,4-Dinitrotoluene	9.6 U	400	9.6	1	02/19/21 17:26	2/17/21	
2-Methylphenol	4.0 U	400	4.0	1	02/19/21 17:26	2/17/21	
3- and 4-Methylphenol Coelution	4.8 U	400	4.8	1	02/19/21 17:26	2/17/21	
Hexachlorobenzene	6.4 U	400	6.4	1	02/19/21 17:26	2/17/21	
Hexachlorobutadiene	4.0 U	400	4.0	1	02/19/21 17:26	2/17/21	
Hexachloroethane	4.4 U	400	4.4	1	02/19/21 17:26	2/17/21	
Nitrobenzene	6.0 U	400	6.0	1	02/19/21 17:26	2/17/21	
Pentachlorophenol (PCP)	39 U	2000	39	1	02/19/21 17:26	2/17/21	
Pyridine	4.0 U	2000	4.0	1	02/19/21 17:26	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	35 - 141	02/19/21 17:26	
2-Fluorobiphenyl	64	31 - 118	02/19/21 17:26	
2-Fluorophenol	44	10 - 105	02/19/21 17:26	
Nitrobenzene-d5	66	31 - 110	02/19/21 17:26	
Phenol-d6	29	10 - 107	02/19/21 17:26	
p-Terphenyl-d14	115	10 - 165	02/19/21 17:26	

Semivolatile Organic Compounds by GC

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/L
Lab Code:	R2101322-001	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081B	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane	0.13 U	2.5	0.13	1	02/18/21 22:57	2/17/21	
Endrin	0.020 U	0.50	0.020	1	02/18/21 22:57	2/17/21	
gamma-BHC (Lindane)	0.020 U	0.50	0.020	1	02/18/21 22:57	2/17/21	
Heptachlor	0.020 U	0.50	0.020	1	02/18/21 22:57	2/17/21	
Heptachlor Epoxide	0.020 U	0.50	0.020	1	02/18/21 22:57	2/17/21	
Methoxychlor	0.020 U	0.50	0.020	1	02/18/21 22:57	2/17/21	
Toxaphene	0.50 U	5.0	0.50	1	02/18/21 22:57	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	57	10 - 164	02/18/21 22:57	
Tetrachloro-m-xylene	221 *	10 - 147	02/18/21 22:57	*

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/L
Lab Code:	R2101322-002	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081B	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane	0.13 U	2.5	0.13	1	02/18/21 23:16	2/17/21	
Endrin	0.020 U	0.50	0.020	1	02/18/21 23:16	2/17/21	
gamma-BHC (Lindane)	0.020 U	0.50	0.020	1	02/18/21 23:16	2/17/21	
Heptachlor	0.020 U	0.50	0.020	1	02/18/21 23:16	2/17/21	
Heptachlor Epoxide	0.020 U	0.50	0.020	1	02/18/21 23:16	2/17/21	
Methoxychlor	0.020 U	0.50	0.020	1	02/18/21 23:16	2/17/21	
Toxaphene	0.50 U	5.0	0.50	1	02/18/21 23:16	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	10 - 164	02/18/21 23:16	
Tetrachloro-m-xylene	61	10 - 147	02/18/21 23:16	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 14:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-PT12-0211	**Units:**	ug/L
Lab Code:	R2101322-001	**Basis:**	As Received

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.48 U	20	0.48	1	02/18/21 18:55	2/17/21	
2,4,5-TP (Silvex)	0.48 U	20	0.48	1	02/18/21 18:55	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	63	12 - 131	02/18/21 18:55	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	02/11/21 11:00
Sample Matrix:	Soil	**Date Received:**	02/12/21 15:30
Sample Name:	TK-SD-ST02-0211	**Units:**	ug/L
Lab Code:	R2101322-002	**Basis:**	As Received

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.48 U	20	0.48	1	02/18/21 19:15	2/17/21	
2,4,5-TP (Silvex)	0.48 U	20	0.48	1	02/18/21 19:15	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	57	12 - 131	02/18/21 19:15	

Metals

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METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering
Service Request: TK-SD-PT12-0211
Project No.: R2101322
Date Collected: 2/11/2021
Project Name:
Date Received: 2/12/2021
Matrix: WATER
Units: ug/L
Basis:

Sample Name: **TK-SD-PT12-0211** **Lab Code:** **R2101322-001**

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Arsenic	6010C	500	5.5	1.0	8.3	J	
Barium	6010C	1000	3.0	1.0	79.5	J	
Cadmium	6010C	100	0.350	1.0	7.0	J	
Mercury	7470A	0.300	0.077	1.0	1.3		*
Chromium	6010C	100	0.590	1.0	11.7	J	
Lead	6010C	100	2.1	1.0	80.6	J	
Selenium	6010C	500	6.4	1.0	500	U	
Silver	6010C	100	0.570	1.0	100	U	

% Solids: **0.0**

Comments:

METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering
Project No.: R2101322
Project Name:
Matrix: WATER

Service Request: TK-SD-PT12-0211
Date Collected: 2/11/2021
Date Received: 2/12/2021
Units: ug/L
Basis:

Sample Name: TK-SD-ST02-0211 **Lab Code:** R2101322-002

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Arsenic	6010C	500	5.5	1.0	10.1	J	
Barium	6010C	1000	3.0	1.0	1000	U	
Cadmium	6010C	100	0.350	1.0	100	U	
Mercury	7470A	0.300	0.077	1.0	0.092	J	*
Chromium	6010C	100	0.590	1.0	0.800	J	
Lead	6010C	100	2.1	1.0	100	U	
Selenium	6010C	500	6.4	1.0	11.1	J	
Silver	6010C	100	0.570	1.0	100	U	

% Solids: 0.0

Comments:

QC Summary Forms

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Semivolatile Organic Compounds by GC/MS

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101322
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

		2,4,6-Tribromophenol	2-Fluorobiphenyl	2-Fluorophenol
Sample Name	**Lab Code**	**35-141**	**31-118**	**10-105**
TK-SD-PT12-0211	R2101322-001	105	70	47
TK-SD-ST02-0211	R2101322-002	95	64	44
Method Blank	RQ2101473-01	101	68	48
Method Blank	RQ2101474-01	94	66	50
Method Blank	RQ2101560-01	82	58	48
Lab Control Sample	RQ2101560-02	102	69	48
Duplicate Lab Control Sample	RQ2101560-03	90	70	46

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101322
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 31-110	Phenol-d6 10-107	p-Terphenyl-d14 10-165
TK-SD-PT12-0211	R2101322-001	68	34	113
TK-SD-ST02-0211	R2101322-002	66	29	115
Method Blank	RQ2101473-01	73	31	113
Method Blank	RQ2101474-01	68	36	118
Method Blank	RQ2101560-01	64	30	103
Lab Control Sample	RQ2101560-02	69	34	120
Duplicate Lab Control Sample	RQ2101560-03	66	32	104

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101473-01	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dichlorobenzene	4.8 U	400	4.8	1	02/19/21 17:54	2/17/21	
2,4,5-Trichlorophenol	4.4 U	400	4.4	1	02/19/21 17:54	2/17/21	
2,4,6-Trichlorophenol	5.6 U	400	5.6	1	02/19/21 17:54	2/17/21	
2,4-Dinitrotoluene	9.6 U	400	9.6	1	02/19/21 17:54	2/17/21	
2-Methylphenol	4.0 U	400	4.0	1	02/19/21 17:54	2/17/21	
3- and 4-Methylphenol Coelution	4.8 U	400	4.8	1	02/19/21 17:54	2/17/21	
Hexachlorobenzene	6.4 U	400	6.4	1	02/19/21 17:54	2/17/21	
Hexachlorobutadiene	4.0 U	400	4.0	1	02/19/21 17:54	2/17/21	
Hexachloroethane	4.4 U	400	4.4	1	02/19/21 17:54	2/17/21	
Nitrobenzene	6.0 U	400	6.0	1	02/19/21 17:54	2/17/21	
Pentachlorophenol (PCP)	39 U	2000	39	1	02/19/21 17:54	2/17/21	
Pyridine	4.0 U	2000	4.0	1	02/19/21 17:54	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	101	35 - 141	02/19/21 17:54	
2-Fluorobiphenyl	68	31 - 118	02/19/21 17:54	
2-Fluorophenol	48	10 - 105	02/19/21 17:54	
Nitrobenzene-d5	73	31 - 110	02/19/21 17:54	
Phenol-d6	31	10 - 107	02/19/21 17:54	
p-Terphenyl-d14	113	10 - 165	02/19/21 17:54	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101474-01	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dichlorobenzene	4.8 U	400	4.8	1	02/19/21 18:23	2/17/21	
2,4,5-Trichlorophenol	4.4 U	400	4.4	1	02/19/21 18:23	2/17/21	
2,4,6-Trichlorophenol	5.6 U	400	5.6	1	02/19/21 18:23	2/17/21	
2,4-Dinitrotoluene	9.6 U	400	9.6	1	02/19/21 18:23	2/17/21	
2-Methylphenol	4.0 U	400	4.0	1	02/19/21 18:23	2/17/21	
3- and 4-Methylphenol Coelution	4.8 U	400	4.8	1	02/19/21 18:23	2/17/21	
Hexachlorobenzene	6.4 U	400	6.4	1	02/19/21 18:23	2/17/21	
Hexachlorobutadiene	4.0 U	400	4.0	1	02/19/21 18:23	2/17/21	
Hexachloroethane	4.4 U	400	4.4	1	02/19/21 18:23	2/17/21	
Nitrobenzene	6.0 U	400	6.0	1	02/19/21 18:23	2/17/21	
Pentachlorophenol (PCP)	39 U	2000	39	1	02/19/21 18:23	2/17/21	
Pyridine	4.0 U	2000	4.0	1	02/19/21 18:23	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	35 - 141	02/19/21 18:23	
2-Fluorobiphenyl	66	31 - 118	02/19/21 18:23	
2-Fluorophenol	50	10 - 105	02/19/21 18:23	
Nitrobenzene-d5	68	31 - 110	02/19/21 18:23	
Phenol-d6	36	10 - 107	02/19/21 18:23	
p-Terphenyl-d14	118	10 - 165	02/19/21 18:23	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101560-01	**Basis:**	As Received

TCLP Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,4-Dichlorobenzene	1.2 U	40	1.2	1	02/19/21 13:43	2/17/21	
2,4,5-Trichlorophenol	1.1 U	40	1.1	1	02/19/21 13:43	2/17/21	
2,4,6-Trichlorophenol	1.4 U	40	1.4	1	02/19/21 13:43	2/17/21	
2,4-Dinitrotoluene	2.4 U	40	2.4	1	02/19/21 13:43	2/17/21	
2-Methylphenol	1.0 U	40	1.0	1	02/19/21 13:43	2/17/21	
3- and 4-Methylphenol Coelution	1.2 U	40	1.2	1	02/19/21 13:43	2/17/21	
Hexachlorobenzene	1.6 U	40	1.6	1	02/19/21 13:43	2/17/21	
Hexachlorobutadiene	1.0 U	40	1.0	1	02/19/21 13:43	2/17/21	
Hexachloroethane	1.1 U	40	1.1	1	02/19/21 13:43	2/17/21	
Nitrobenzene	1.5 U	40	1.5	1	02/19/21 13:43	2/17/21	
Pentachlorophenol (PCP)	9.7 U	200	9.7	1	02/19/21 13:43	2/17/21	
Pyridine	1.0 U	200	1.0	1	02/19/21 13:43	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	35 - 141	02/19/21 13:43	
2-Fluorobiphenyl	58	31 - 118	02/19/21 13:43	
2-Fluorophenol	48	10 - 105	02/19/21 13:43	
Nitrobenzene-d5	64	31 - 110	02/19/21 13:43	
Phenol-d6	30	10 - 107	02/19/21 13:43	
p-Terphenyl-d14	103	10 - 165	02/19/21 13:43	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101322
Date Analyzed: 02/19/21

Duplicate Lab Control Sample Summary
TCLP Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis: As Received

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2101560-02			RQ2101560-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,4-Dichlorobenzene	8270D	33.6 J	80.0	42	34.9 J	80.0	44	10-124	4	30
2,4,5-Trichlorophenol	8270D	61.9	80.0	77	56.6	80.0	71	48-134	9	30
2,4,6-Trichlorophenol	8270D	57.9	80.0	72	56.8	80.0	71	44-135	2	30
2,4-Dinitrotoluene	8270D	69.2	80.0	87	62.2	80.0	78	54-130	11	30
2-Methylphenol	8270D	50.6	80.0	63	48.0	80.0	60	47-100	5	30
3- and 4-Methylphenol Coelution	8270D	49.9	80.0	62	46.1	80.0	58	40-92	8	30
Hexachlorobenzene	8270D	73.3	80.0	92	65.1	80.0	81	53-123	12	30
Hexachlorobutadiene	8270D	35.4 J	80.0	44	38.1 J	80.0	48	16-95	7	30
Hexachloroethane	8270D	32.1 J	80.0	40	32.1 J	80.0	40	15-92	<1	30
Nitrobenzene	8270D	49.6	80.0	62	49.7	80.0	62	46-108	<1	30
Pentachlorophenol (PCP)	8270D	58.5 J	80.0	73	50.0 J	80.0	62	29-164	16	30
Pyridine	8270D	34.6 J	80.0	43	35.4 J	80.0	44	10-123	2	30

Semivolatile Organic Compounds by GC

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101322
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3510C

Sample Name	Lab Code	Decachlorobiphenyl 10-164	Tetrachloro-m-xylene 10-147
TK-SD-PT12-0211	R2101322-001	57	221*
TK-SD-ST02-0211	R2101322-002	64	61
Method Blank	RQ2101473-01	61	61
Method Blank	RQ2101474-01	50	44
Method Blank	RQ2101558-01	64	62
Lab Control Sample	RQ2101558-02	63	61
Duplicate Lab Control Sample	RQ2101558-03	63	63

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101473-01	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081B	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane	0.13 U	2.5	0.13	1	02/18/21 23:36	2/17/21	
Endrin	0.020 U	0.50	0.020	1	02/18/21 23:36	2/17/21	
gamma-BHC (Lindane)	0.020 U	0.50	0.020	1	02/18/21 23:36	2/17/21	
Heptachlor	0.020 U	0.50	0.020	1	02/18/21 23:36	2/17/21	
Heptachlor Epoxide	0.020 U	0.50	0.020	1	02/18/21 23:36	2/17/21	
Methoxychlor	0.020 U	0.50	0.020	1	02/18/21 23:36	2/17/21	
Toxaphene	0.50 U	5.0	0.50	1	02/18/21 23:36	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	61	10 - 164	02/18/21 23:36	
Tetrachloro-m-xylene	61	10 - 147	02/18/21 23:36	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101474-01	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method:	8081B	**Pre-Prep Method:**	EPA 1311
Prep Method:	EPA 3510C	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane	0.13 U	2.5	0.13	1	02/19/21 00:14	2/17/21	
Endrin	0.020 U	0.50	0.020	1	02/19/21 00:14	2/17/21	
gamma-BHC (Lindane)	0.020 U	0.50	0.020	1	02/19/21 00:14	2/17/21	
Heptachlor	0.020 U	0.50	0.020	1	02/19/21 00:14	2/17/21	
Heptachlor Epoxide	0.020 U	0.50	0.020	1	02/19/21 00:14	2/17/21	
Methoxychlor	0.020 U	0.50	0.020	1	02/19/21 00:14	2/17/21	
Toxaphene	0.50 U	5.0	0.50	1	02/19/21 00:14	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	50	10 - 164	02/19/21 00:14	
Tetrachloro-m-xylene	44	10 - 147	02/19/21 00:14	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101558-01	**Basis:**	As Received

TCLP Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Chlordane	0.13 U	0.25	0.13	1	02/18/21 20:44	2/17/21	
Endrin	0.020 U	0.050	0.020	1	02/18/21 20:44	2/17/21	
gamma-BHC (Lindane)	0.020 U	0.050	0.020	1	02/18/21 20:44	2/17/21	
Heptachlor	0.020 U	0.050	0.020	1	02/18/21 20:44	2/17/21	
Heptachlor Epoxide	0.020 U	0.050	0.020	1	02/18/21 20:44	2/17/21	
Methoxychlor	0.020 U	0.050	0.020	1	02/18/21 20:44	2/17/21	
Toxaphene	0.50 U	0.50	0.50	1	02/18/21 20:44	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	64	10 - 164	02/18/21 20:44	
Tetrachloro-m-xylene	62	10 - 147	02/18/21 20:44	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101322
Date Analyzed: 02/18/21

Duplicate Lab Control Sample Summary
TCLP Organochlorine Pesticides by Gas Chromatography

Units:ug/L
Basis: As Received

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ2101558-02			RQ2101558-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Endrin	8081B	0.308	0.400	77	0.299	0.400	75	56-143	3	30
gamma-BHC (Lindane)	8081B	0.284	0.400	71	0.277	0.400	69	41-149	2	30
Heptachlor	8081B	0.249	0.400	62	0.253	0.400	63	32-141	1	30
Heptachlor Epoxide	8081B	0.288	0.400	72	0.283	0.400	71	51-143	2	30
Methoxychlor	8081B	0.312	0.400	78	0.310	0.400	77	56-149	<1	30

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QA/QC Report

Client: Inventum Engineering **Service Request:** R2101322
Project: RITC Tanks
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
TCLP Chlorinated Herbicides by GC

Analysis Method: 8151A
Extraction Method: Method

Sample Name	Lab Code	DCAA 12-131
TK-SD-PT12-0211	R2101322-001	63
TK-SD-ST02-0211	R2101322-002	57
Method Blank	RQ2101473-01	41
Method Blank	RQ2101474-01	51
Method Blank	RQ2101559-01	59
Lab Control Sample	RQ2101559-02	79
Duplicate Lab Control Sample	RQ2101559-03	72

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101473-01	**Basis:**	As Received

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.48 U	20	0.48	1	02/18/21 19:34	2/17/21	
2,4,5-TP (Silvex)	0.48 U	20	0.48	1	02/18/21 19:34	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	41	12 - 131	02/18/21 19:34	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101474-01	**Basis:**	As Received

TCLP Chlorinated Herbicides by GC

Analysis Method:	8151A	**Pre-Prep Method:**	EPA 1311
Prep Method:	Method	**Pre-Prep Date:**	2/15/21

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.48 U	20	0.48	1	02/18/21 20:13	2/17/21	
2,4,5-TP (Silvex)	0.48 U	20	0.48	1	02/18/21 20:13	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	51	12 - 131	02/18/21 20:13	

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Analytical Report

Client:	Inventum Engineering	**Service Request:**	R2101322
Project:	RITC Tanks	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2101559-01	**Basis:**	As Received

TCLP Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4-D	0.12 U	2.0	0.12	1	02/18/21 16:36	2/17/21	
2,4,5-TP (Silvex)	0.12 U	2.0	0.12	1	02/18/21 16:36	2/17/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
DCAA	59	12 - 131	02/18/21 16:36	

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QA/QC Report

Client: Inventum Engineering
Project: RITC Tanks
Sample Matrix: Soil

Service Request: R2101322
Date Analyzed: 02/18/21

Duplicate Lab Control Sample Summary
TCLP Chlorinated Herbicides by GC

Units:ug/L
Basis: As Received

			Lab Control Sample		Duplicate Lab Control Sample					
			RQ2101559-02		RQ2101559-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4-D	8151A	1.72 J	2.00	86	1.84 J	2.00	92	26-154	7	30
2,4,5-TP (Silvex)	8151A	1.52 J	2.00	76	1.61 J	2.00	81	21-120	6	30

Metals

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BLANKS

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic	5.50	U	5.50	U	5.50	U	5.50	U	5.500	U	P
Barium	3.00	U	3.00	U	3.00	U	3.00	U	3.000	U	P
Cadmium	0.35	U	0.35	U	0.35	U	0.35	U	0.350	U	P
Mercury	0.077	U	0.077	U	0.077	U	0.077	U	0.077	U	CV
Chromium	0.59	U	0.59	U	0.59	U	0.59	U	0.590	U	P
Lead	-2.50	J	2.10	U	2.10	U	2.10	U	2.100	U	P
Selenium	6.40	U	6.40	U	6.40	U	6.40	U	6.400	U	P
Silver	0.57	U	0.57	U	0.57	U	0.57	U	0.570	U	P

Comments:

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BLANKS

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			5.50	U	5.50	U					P
Barium			3.00	U	3.00	U					P
Cadmium			0.35	U	0.35	U					P
Mercury			0.077	U							CV
Chromium			0.59	U	0.59	U					P
Lead			2.10	U	2.10	U					P
Selenium			6.40	U	6.40	U					P
Silver			0.57	U	0.57	U					P

Comments:

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-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

TK-SD-ST02-0211S

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.840		0.092	J	1.00	75		CV

Comments:

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SPIKE SAMPLE RECOVERY

SAMPLE NO.

TK-SD-ST02-0211SD

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	1.230		0.092	J	1.00	114		CV

Comments:

METALS
-6-
DUPLICATES

SAMPLE NO.: TK-SD-ST02-0211SD

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.840		1.230		38	*	CV

Comments: _____

METALS

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LABORATORY CONTROL SAMPLE

Contract: R2101322

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-SD-PT12-0

Solid LCS Source: _____

Aqueous LCS Source: CPI

Analyte	Aqueous (ug/L			Solid (mg/K				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	1000	985	98					
Barium	2000	2020	101					
Cadmium	500	508	102					
Mercury	1.000	1.060	106					
Chromium	500	507	101					
Lead	500	499	100					
Selenium	1000	989	99					
Silver	250	246	98					

Comments: _____

Subcontracted Analytical Parameters

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

March 18, 2021

Reports and Invoices
ALS Environmental
1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Certificate of Analysis

Revised Report - 3/18/2021 2:43:23 PM - See workorder comment section for explanation

Project Name:	**ALSI EDD and MDL Reporting, NO QC**	Workorder:	**3159476**
Purchase Order:	**58R2101322**	Workorder ID:	**AER570|R2101322**

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, February 24, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Mr. Brady Kalkman , Ms. Janice Jaeger

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Ms. Sarah S Leung
Project Coordinator

ALS Environmental

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3159476 AER570|R2101322

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3159476001	TK-SD-PT12-0211	NY Non-Potable Water	2/11/2021 14:00	2/24/2021 09:49	Collected by Client
3159476002	TK-SD-ST02-0211	NY Non-Potable Water	2/11/2021 11:00	2/24/2021 09:49	Collected by Client

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

SAMPLE SUMMARY

Workorder: 3159476 AER570|R2101322

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
-- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

PROJECT SUMMARY

Workorder: 3159476 AER570|R2101322

Workorder Comments

Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

This certificate of analysis was reissued to include a level IV data package per cline'ts email request on 3/17/21. SSL 3/18/21

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ANALYTICAL RESULTS

Workorder: 3159476 AER570|R2101322

Lab ID: **3159476001** Date Collected: 2/11/2021 14:00 Matrix: NY Non-Potable Water

Sample ID: **TK-SD-PT12-0211** Date Received: 2/24/2021 09:49

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP EPA 1311 VOLATILE ORGANIC											
Benzene	338	C	ug/L	20.0	8.0	SW846 8260C			2/26/21 13:34	DPC	A
2-Butanone	ND	C	ug/L	200	60.0	SW846 8260C			2/26/21 13:34	DPC	A
Carbon Tetrachloride	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
Chlorobenzene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
Chloroform	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
1,2-Dichloroethane	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
1,1-Dichloroethene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
Tetrachloroethene	ND	C	ug/L	20.0	8.0	SW846 8260C			2/26/21 13:34	DPC	A
Trichloroethene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
Vinyl Chloride	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:34	DPC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	92.1	C	%	62 - 133		SW846 8260C			2/26/21 13:34	DPC	A
4-Bromofluorobenzene (S)	94.6	C	%	79 - 114		SW846 8260C			2/26/21 13:34	DPC	A
Dibromofluoromethane (S)	89.2	C	%	78 - 116		SW846 8260C			2/26/21 13:34	DPC	A
Toluene-d8 (S)	89.7	C	%	76 - 127		SW846 8260C			2/26/21 13:34	DPC	A
WET CHEMISTRY											
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	3/1/21 13:30	VXF	3/2/21 13:25	MXF	A
Ignitability	Not Ignitable	C,1				SW846 1030			2/25/21 11:01	II	A
Sulfide, Reactive	4.0J	C,J	mg/kg	6.2	1.4	SW846 7.3	3/1/21 13:30	VXF	3/1/21 18:45	VXF	A

Ms. Sarah S Leung
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3159476 AER570|R2101322

Lab ID: **3159476002** Date Collected: 2/11/2021 11:00 Matrix: NY Non-Potable Water

Sample ID: **TK-SD-ST02-0211** Date Received: 2/24/2021 09:49

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
TCLP EPA 1311 VOLATILE ORGANIC											
Benzene	ND	C	ug/L	20.0	8.0	SW846 8260C			2/26/21 13:56	DPC	A
2-Butanone	ND	C	ug/L	200	60.0	SW846 8260C			2/26/21 13:56	DPC	A
Carbon Tetrachloride	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
Chlorobenzene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
Chloroform	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
1,2-Dichloroethane	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
1,1-Dichloroethene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
Tetrachloroethene	ND	C	ug/L	20.0	8.0	SW846 8260C			2/26/21 13:56	DPC	A
Trichloroethene	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
Vinyl Chloride	ND	C	ug/L	20.0	4.0	SW846 8260C			2/26/21 13:56	DPC	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.3	C	%	62 - 133		SW846 8260C			2/26/21 13:56	DPC	A
4-Bromofluorobenzene (S)	94.3	C	%	79 - 114		SW846 8260C			2/26/21 13:56	DPC	A
Dibromofluoromethane (S)	90.8	C	%	78 - 116		SW846 8260C			2/26/21 13:56	DPC	A
Toluene-d8 (S)	93.9	C	%	76 - 127		SW846 8260C			2/26/21 13:56	DPC	A
WET CHEMISTRY											
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	3/1/21 13:30	VXF	3/2/21 13:25	MXF	A
Ignitability	Not Ignitable	C,1				SW846 1030			2/25/21 11:01	II	A
Sulfide, Reactive	4.4J	C,J	mg/kg	6.2	1.4	SW846 7.3	3/1/21 13:30	VXF	3/1/21 18:45	VXF	A

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ANALYTICAL RESULTS

Workorder: 3159476 AER570|R2101322

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3159476001	1	TK-SD-PT12-0211	SW846 1030	Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3159476002	1	TK-SD-ST02-0211	SW846 1030	Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				

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State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3159476 AER570|R2101322

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3159476001	TK-SD-PT12-0211	SW-846 7.3CN	SW-846 7.3CN	
3159476001	TK-SD-PT12-0211	SW846 1030		
3159476001	TK-SD-PT12-0211	SW846 7.3	SW846 7.3	
3159476001	TK-SD-PT12-0211	SW846 8260C		SW846 1311
3159476002	TK-SD-ST02-0211	SW-846 7.3CN	SW-846 7.3CN	
3159476002	TK-SD-ST02-0211	SW846 1030		
3159476002	TK-SD-ST02-0211	SW846 7.3	SW846 7.3	
3159476002	TK-SD-ST02-0211	SW846 8260C		SW846 1311

ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Meghan Pedro

3159476

Project Number: R2101322
Project Manager: Meghan Pedro
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Lab ID	CN React 9014	Flash 1010A Modified	Sulfide React 9034 Modified	VOC TCLP 8260C
R~~2101322-001~~	TK-SD-PT12-0211	2	Soil	2/11/21	1400	Middletown ALS	X	X	X	X
R~~2101322-002~~	TK-SD-ST02-0211	2	Soil	2/11/21	1100	Middletown ALS	X	X	X	X

x1 8oz jar
x1 2oz " each.
w22121

Special Instructions/Comments

H - Test is On Hold P - Test is Authorized for Prep Only

Turnaround Requirements

____**RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

____**STANDARD**

Requested FAX Date: _____

Requested Report Date: 03/03/21

Report Requirements

____ I. Results Only
____ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y
EDD Y

Invoice Information

PO# 58R2101322

Bill to

Relinquished By: [signature] 2/17/21/1250

Received By: [signature] ALS 22121 0949

Airbill Number: _____

1.5M

301 Fulling Mill Road
Middletown, PA 17057
P: (717) 944-5541
F: (717) 944-1430

3159476

ALS Environmental – Rochester

...n of Sample Receipt Form

Client: ALS N4 | Work Order: | Initials: | Date: 3/24/21

1. Were airbills / tracking numbers present and recorded?	NONE	YES	NO
Tracking number: 773024348498			
2. Are Custody Seals on shipping containers intact?	NONE	YES	NO
3. Are Custody Seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present?		YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?		YES	NO
5a. Does the COC contain sample locations?		YES	NO
5b. Does the COC contain date and time of sample collection for all samples?		YES	NO
5c. Does the COC contain sample collectors name?		YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?	n/a	YES	NO
5e. Does the COC note the number of bottles submitted for each sample?		YES	NO
5f. Does the COC note the type of sample, composite or grab?	n/a	YES	NO
5g. Does the COC note the matrix of the sample(s)?		YES	NO
6. Are all aqueous samples requiring preservation preserved correctly?[1]	N/A	YES	NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?		YES	NO
8. Are all samples within holding times for the requested analyses?		YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)		YES	NO
10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?	N/A	YES	NO
11. Were the samples received on ice?		YES	NO
12. Were sample temperatures measured at 0.0-6.0°C		YES	NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below		YES	NO
13a. Are the samples required for SDWA compliance reporting?	N/A	YES	NO
13b. Did the client provide a SDWA PWS ID#?	N/A	YES	NO
13c. Are all aqueous unpreserved SDWA samples pH 5-9?	N/A	YES	NO
13d. Did the client provide the SDWA sample location ID/Description?	N/A	YES	NO
13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?	N/A	YES	NO

Cooler #: | | | | | | | | |

Temperature (°C): 1 | | | | | | | | |

Thermometer ID: 524 | | | | | | | | |

Radiological (µCi): | | | | | | | | |

COMMENTS (Required for all NO responses above and any sample non-conformance):

[1]Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis

Rev 1/20/2020