



INVENTUM ENGINEERING

Tank Management and Closure Construction Completion Report Tank No. RC01

Riverview Innovation & Technology Campus
Brownfield Cleanup Program Site No. C915353

3875 River Road
Tonawanda, New York 14150

August 19, 2025

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.:	RC01
Grid Location:	X34
Location Notes:	The railcar was located on the southern property boundary.
Date of Closure:	11/15/2021
Tank Dimensions:	Horizontal Cylinder Diameter: 8-feet, Length: 32-feet
Storage Capacity:	12,100 gallons
Tank Exterior Coating Description:	Double walled, uncoated steel
Tank Piping Description:	None
Secondary Containment Description:	None; the railcar was abandoned on tracks.
Contents Description:	Approximately 4- to 5- inches of residuals on tank bottom. Black sludge/semi-liquid, low odor.

3. AST Closure Procedure

Contractor:	US Ecology
Contractor Address:	2525 George Urban Blvd, Depew, NY 14043
Dates of Cleaning:	11/12/2021 – 11/15/2021
Cleaning Method:	Hot water power washing and mechanical removal of residuals.
Disposition of tank shell and piping:	Recycled steel
Recycler or Disposal Facility Address:	Niagara Metals 4861 Packard Road, Niagara Falls, NY 14304
Contents Volume Disposed:	Approximately 300 gallons of railcar residuals and decontamination water.
Disposition of Contents & Hazardous Waste Code(s):	Disposed at Veolia ES Technical Solutions as hazardous waste. Flammable D001, Lead D008, Benzene D018.
Disposal Facility Address:	Veolia ES Technical Solutions, LLC 1 Eden Lane, Flanders, NJ 07836
Disposal Facility EPA No.:	NJD030631369
Hazardous Waste Transporter Name:	Freehold Cartage, Inc.
Hazardous Waste Transporter EPA No.:	NYD054026164

4. Inspection Summary

Tank closure inspection:	Railcar residuals were completely removed. No standing water from decontamination was present in the railcar interior. Railcar was cleared for shearing and recycling in November 2021.
Evidence of leaks and/or additional observations:	The exterior metal casing was in relatively poor condition, steel had oxidized and rusted, particularly around the top access port from extended weather exposure. The interior metal containment wall was intact, no holes or cracks observed. No visual or olfactory evidence of staining or historical release present.

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	2/10/2021, 1/13/2022
Contents Removal	11/12/2021
Cleaning	11/12/2021 – 11/15/2021
Decommissioning	11/30/2021
Disposal	4/8/2022

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.

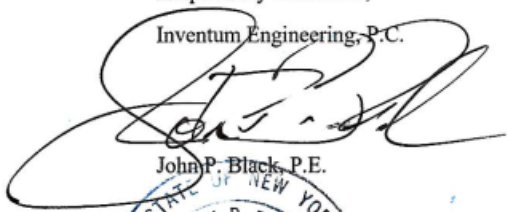


Engineering Certification

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

It is a violation of the laws of New York for any person, unless acting under the direction of a Licensed Professional Engineer, to alter any item or any portion of this document in any way. If an item bearing the seal of a Licensed Professional Engineer is altered, the altering Engineer shall affix to the item his/her seal and notation "altered by" followed by his/her signature and the date of such alternation, and a specific description of the alteration.



INVENTUM ENGINEERING, PC

Attachment A – Analytical Tables



Table 1
Tank Management & Closure CCR
RC01 Analytical Results
Riverview Innovation & Technology Campus, Inc.
Town of Tonawanda, New York

Analytes	Sample ID:		TL-LQ-RC01-0210	
	Sample Date:		2/10/2021	
	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
VOCs SW8260C				
1,1,1-Trichloroethane (TCA)		ug/kg	<400	U
1,1,2,2-Tetrachloroethane		ug/kg	<400	U
1,1,2-Trichloroethane		ug/kg	<400	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/kg	<400	U
1,1-Dichloroethane		ug/kg	<400	U
1,1-Dichloroethene		ug/kg	<400	U
1,2,3-Trichlorobenzene		ug/kg	<500	U
1,2,4-Trichlorobenzene		ug/kg	<680	U
1,2-Dibromo-3-Chloropropane		ug/kg	<900	U
1,2-Dibromoethane (Ethylene Dibromide)		ug/kg	<400	U
1,2-Dichlorobenzene		ug/kg	<400	U
1,2-Dichloroethane		ug/kg	<400	U
1,2-Dichloropropane		ug/kg	<400	U
1,3-Dichlorobenzene		ug/kg	<400	U
1,4-Dichlorobenzene		ug/kg	<400	U
1,4-Dioxane (P-Dioxane)		ug/kg	<26000	U
Methyl Ethyl Ketone (2-Butanone)		ug/kg	3200	J
2-Hexanone		ug/kg	<400	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		ug/kg	<400	U
Acetone		ug/kg	<4200	U
Benzene		ug/kg	<400	U
Bromochloromethane		ug/kg	<400	U
Bromodichloromethane		ug/kg	<400	U
Bromoform		ug/kg	<500	U
Bromomethane		ug/kg	<1400	U
Carbon Disulfide		ug/kg	<840	U
Carbon Tetrachloride		ug/kg	<680	U
Chlorobenzene		ug/kg	<400	U
Chloroethane		ug/kg	<460	U
Chloroform		ug/kg	<480	U
Chloromethane		ug/kg	<560	U
Cyclohexane		ug/kg	<520	U
Dibromochloromethane		ug/kg	<400	U
Dichlorodifluoromethane		ug/kg	<420	U
Methylene Chloride		ug/kg	<1300	U
Ethylbenzene		ug/kg	<400	U
Isopropylbenzene (Cumene)		ug/kg	<400	U
Methyl Acetate		ug/kg	820	J
Tert-Butyl Methyl Ether		ug/kg	<400	U
Methylcyclohexane		ug/kg	<400	U
Styrene		ug/kg	<400	U
Tetrachloroethylene (PCE)		ug/kg	<420	U
Toluene		ug/kg	<400	U



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
Trichloroethylene (TCE)		ug/kg	<400	U
Trichlorofluoromethane		ug/kg	<480	U
Vinyl Chloride		ug/kg	<400	U
Cis-1,2-Dichloroethylene		ug/kg	<460	U
Cis-1,3-Dichloropropene		ug/kg	<400	U
m,p-Xylene		ug/kg	<400	U
O-Xylene (1,2-Dimethylbenzene)		ug/kg	<400	U
Trans-1,2-Dichloroethene		ug/kg	<400	U
Trans-1,3-Dichloropropene		ug/kg	<460	U
SVOCs SW8270D				
1,2,4,5-Tetrachlorobenzene		ug/kg	<60000	U
2,3,4,6-Tetrachlorophenol		ug/kg	<60000	U
2,4,5-Trichlorophenol		ug/kg	<55000	U
2,4,6-Trichlorophenol		ug/kg	<70000	U
2,4-Dichlorophenol		ug/kg	<65000	U
2,4-Dimethylphenol		ug/kg	<70000	U
2,4-Dinitrophenol		ug/kg	<1000000	U
2,4-Dinitrotoluene		ug/kg	<120000	U
2,6-Dinitrotoluene		ug/kg	<70000	U
2-Chloronaphthalene		ug/kg	<70000	U
2-Chlorophenol		ug/kg	<55000	U
2-Methylnaphthalene		ug/kg	340000	J
2-Methylphenol (O-Cresol)		ug/kg	<50000	U
2-Nitroaniline		ug/kg	<70000	U
2-Nitrophenol		ug/kg	<75000	U
3,3'-Dichlorobenzidine		ug/kg	<60000	U
Cresols, M & P		ug/kg	<60000	U
3-Nitroaniline		ug/kg	<130000	U
4,6-Dinitro-2-Methylphenol		ug/kg	<1000000	U
4-Bromophenyl Phenyl Ether		ug/kg	<85000	U
4-Chloro-3-Methylphenol		ug/kg	<55000	U
4-Chloroaniline		ug/kg	<50000	U
4-Chlorophenyl Phenyl Ether		ug/kg	<75000	U
4-Nitroaniline		ug/kg	<140000	U
4-Nitrophenol		ug/kg	<320000	U
Acenaphthene		ug/kg	<70000	U
Acenaphthylene		ug/kg	200000	J
Acetophenone		ug/kg	<65000	U
Anthracene		ug/kg	160000	J
Atrazine		ug/kg	<110000	U
Benzo(A)Anthracene		ug/kg	150000	J
Benzaldehyde		ug/kg	<190000	U
Benzo(A)Pyrene		ug/kg	170000	J



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
Benzo(B)Fluoranthene		ug/kg	170000	J
Benzo(G,H,I)Perylene		ug/kg	160000	J
Benzo(K)Fluoranthene		ug/kg	66000	J
Biphenyl (Diphenyl)		ug/kg	100000	J
Bis(2-Chloroisopropyl) Ether		ug/kg	<70000	U
Bis(2-Chloroethoxy) Methane		ug/kg	<95000	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)		ug/kg	<65000	U
Bis(2-Ethylhexyl) Phthalate		ug/kg	<390000	U
Benzyl Butyl Phthalate		ug/kg	<70000	U
Caprolactam		ug/kg	140000	J
Carbazole		ug/kg	110000	J
Chrysene		ug/kg	130000	J
Di-N-Butyl Phthalate		ug/kg	<85000	U
Di-N-Octylphthalate		ug/kg	<170000	U
Dibenz(A,H)Anthracene		ug/kg	<55000	U
Dibenzofuran		ug/kg	160000	J
Diethyl Phthalate		ug/kg	<55000	U
Dimethyl Phthalate		ug/kg	<65000	U
Fluoranthene		ug/kg	560000	
Fluorene		ug/kg	210000	J
Hexachlorobenzene		ug/kg	<80000	U
Hexachlorobutadiene		ug/kg	<50000	U
Hexachlorocyclopentadiene		ug/kg	<110000	U
Hexachloroethane		ug/kg	<55000	U
Indeno(1,2,3-C,D)Pyrene		ug/kg	140000	J
Isophorone		ug/kg	<70000	U
N-Nitrosodi-N-Propylamine		ug/kg	<60000	U
N-Nitrosodiphenylamine		ug/kg	<140000	U
Naphthalene		ug/kg	98000	J
Nitrobenzene		ug/kg	<75000	U
Pentachlorophenol		ug/kg	<490000	U
Phenanthrene		ug/kg	840000	
Phenol		ug/kg	<50000	U
Pyrene		ug/kg	440000	J



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
TAL Metals SW6010				
Aluminum		mg/kg	6650	
Antimony		mg/kg	6.1	J
Arsenic		mg/kg	7.6	J
Barium		mg/kg	183	
Beryllium		mg/kg	<0.6	U
Cadmium		mg/kg	3	J
Calcium		mg/kg	1220	
Chromium, Total		mg/kg	60.9	
Cobalt		mg/kg	<4.6	U
Copper		mg/kg	358	
Iron		mg/kg	6000	
Lead		mg/kg	3110	
Magnesium		mg/kg	318	J
Manganese		mg/kg	57.3	
Nickel		mg/kg	18.2	J
Potassium		mg/kg	<500	U
Selenium		mg/kg	<5.4	U
Silver		mg/kg	<0.9	U
Sodium		mg/kg	<520	U
Sulfur		mg/kg	NS	
Thallium		mg/kg	<6.5	U
Tin		mg/kg	NS	
Vanadium		mg/kg	<7.1	U
Zinc		mg/kg	813	
Total Mercury SW7471				
Mercury		mg/kg	26.9	
Ammonia E350.1M				
Nitrogen, Ammonia (As N)		mg/kg	7.1	
Cyanide SW9012B				
Cyanide		mg/kg	NS	
PCBs 8082A				
PCB-1016 (Aroclor 1016)		ug/kg	<2000	U
PCB-1221 (Aroclor 1221)		ug/kg	<4000	U
PCB-1232 (Aroclor 1232)		ug/kg	<2000	U
PCB-1242 (Aroclor 1242)		ug/kg	<2000	U
PCB-1248 (Aroclor 1248)		ug/kg	<2000	U
PCB-1254 (Aroclor 1254)		ug/kg	<2000	U
PCB-1260 (Aroclor 1260)		ug/kg	<2000	U



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
Pesticides 8081B				
P,P'-DDD		ug/kg	<98	U
P,P'-DDE		ug/kg	<98	U
P,P'-DDT		ug/kg	<98	U
Aldrin		ug/kg	520	
Dieldrin		ug/kg	<98	U
Alpha Endosulfan		ug/kg	<98	U
Beta Endosulfan		ug/kg	<98	U
Endosulfan Sulfate		ug/kg	<98	U
Endrin		ug/kg	<98	U
Endrin Aldehyde		ug/kg	<98	U
Endrin Ketone		ug/kg	<98	U
Heptachlor		ug/kg	230	
Heptachlor Epoxide		ug/kg	<98	U
Methoxychlor		ug/kg	<98	U
Toxaphene		ug/kg	<98	U
Alpha Bhc (Alpha Hexachlorocyclohexane)		ug/kg	470	
cis-Chlordane		ug/kg	220	
Beta Bhc (Beta Hexachlorocyclohexane)		ug/kg	1000	
Delta BHC (Delta Hexachlorocyclohexane)		ug/kg	<98	U
Gamma Bhc (Lindane)		ug/kg	<98	U
Chlordane (Technical)		ug/kg	<98	U
Herbicides SW8151A				
Acetic acid, (2,4,5-trichlorophenoxy)-		ug/kg	<96	U
Silvex (2,4,5-TP)		ug/kg	<96	U
2,4-D (Dichlorophenoxyacetic Acid)		ug/kg	<96	U
Dicamba		ug/kg	<96	U
TCLP VOCs - SW8260C				
1,2-Dichloroethane	500	ug/l	NA	
Chlorobenzene	100,000	ug/l	NA	
Tetrachloroethylene (PCE)	700	ug/l	NA	
Carbon Tetrachloride	500	ug/l	NA	
Chloroform	6,000	ug/l	NA	
Benzene	500	ug/l	NA	
Vinyl Chloride	200	ug/l	NA	
1,1-Dichloroethene	700	ug/l	NA	
Methyl Ethyl Ketone (2-Butanone)	200,000	ug/l	NA	
Trichloroethylene (TCE)	500	ug/l	NA	



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
TCLP SVOCs - SW8270D				
1,4-Dichlorobenzene	7,500	ug/l	NA	
2,4,5-Trichlorophenol	400,000	ug/l	NA	
2,4,6-Trichlorophenol	2,000	ug/l	NA	
2,4-Dinitrotoluene	130	ug/l	NA	
2-Methylphenol (O-Cresol)	200,000	ug/l	NA	
Cresols, M & P	200,000	ug/l	NA	
Cresols (m, p, o - Cresol)	-	ug/l	NA	
Hexachlorobenzene	130	ug/l	NA	
Hexachlorobutadiene	500	ug/l	NA	
Hexachloroethane	3,000	ug/l	NA	
Nitrobenzene	2,000	ug/l	NA	
Pentachlorophenol	100,000	ug/l	NA	
Pyridine	5,000	ug/l	NA	
TCLP Metals - SW6010				
Arsenic	5,000	ug/l	NA	
Barium	100,000	ug/l	NA	
Cadmium	1,000	ug/l	NA	
Chromium, Total	5,000	ug/l	NA	
Lead	5,000	ug/l	NA	
Selenium	1,000	ug/l	NA	
Silver	5,000	ug/l	NA	
TCLP Mercury - SW7470				
Mercury	200	ug/l	NA	
TCLP Pesticides - 8081B				
Chlordane	30	ug/l	NA	
Endrin	20	ug/l	NA	
Gamma Bhc (Lindane)	400	ug/l	NA	
Heptachlor	8	ug/l	NA	
Heptachlor Epoxide	8	ug/l	NA	
Methoxychlor	10,000	ug/l	NA	
Toxaphene	500	ug/l	NA	
TCLP Herbicides - SW8151A				
2,4-D (Dichlorophenoxyacetic Acid)	10,000	ug/l	NA	
Silvex (2,4,5-TP)	1,000	ug/l	NA	
SW9045D				
pH	<2, >=12.5	ph units	NA	



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	Contents:		Black sludge/Semi-liquid	
	Hazardous Waste Code(s):		NA	
	Lab Report Number(s):		R2101263	
	TCLP Standards (ug/L)	Units	Rail Car No. 1	
SW1010				
Flash Point	<140	deg f	Did Not Flash	
Ignite 1010MOD				
Ignitability of Solids		deg f	NS	
SW7.3.3.2				
Reactive Cyanide		mg/kg	<0.011	U
SW7.3.4.2				
Reactive Sulfide		mg/kg	9.6	
A2540G				
Moisture, Percent		%	NS	
Total Solids		%	NS	
BTU				
Calorific Value		but/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				
(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, f				



Table 2
Tank Management & Closure CCR
RC01 Analytical Results
Riverview Innovation & Technology Campus, Inc.
Town of Tonawanda, New York

Analytes	Sample ID:		RC01-WASH-01132022	
	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
VOCs SW8260C				
1,1,1-Trichloroethane (TCA)		ug/L	<2000	U
1,1,2,2-Tetrachloroethane		ug/L	<2000	U
1,1,2-Trichloroethane		ug/L	<2000	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/L	<2000	U
1,1-Dichloroethane		ug/L	<2000	U
1,1-Dichloroethene		ug/L	<2000	U
1,2,3-Trichlorobenzene		ug/L	<5000	U
1,2,4-Trichlorobenzene		ug/L	<5000	U
1,2-Dibromo-3-Chloropropane		ug/L	<10000	U
1,2-Dibromoethane (Ethylene Dibromide)		ug/L	<2000	U
1,2-Dichlorobenzene		ug/L	<2000	U
1,2-Dichloroethane		ug/L	<2000	U
1,2-Dichloropropane		ug/L	<2000	U
1,3-Dichlorobenzene		ug/L	<2000	U
1,4-Dichlorobenzene		ug/L	<2000	U
1,4-Dioxane (P-Dioxane)		ug/L	<10000	U
Methyl Ethyl Ketone (2-Butanone)		ug/L	<10000	U
2-Hexanone		ug/L	<5000	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		ug/L	<5000	U
Acetone		ug/L	<10000	U
Benzene		ug/L	1640	
Bromochloromethane		ug/L	<5000	U
Bromodichloromethane		ug/L	<2000	U
Bromoform		ug/L	<5000	U
Bromomethane		ug/L	<2000	U
Carbon Disulfide		ug/L	<2000	U
Carbon Tetrachloride		ug/L	<2000	U
Chlorobenzene		ug/L	<2000	U
Chloroethane		ug/L	<2000	U
Chloroform		ug/L	<2000	U
Chloromethane		ug/L	<2000	U
Cyclohexane		ug/L	<10000	U
Dibromochloromethane		ug/L	<2000	U
Dichlorodifluoromethane		ug/L	<2000	U
Methylene Chloride		ug/L	<5000	U
Ethylbenzene		ug/L	<2000	U
Isopropylbenzene (Cumene)		ug/L	<2000	U
Methyl Acetate		ug/L	<2000	U
Tert-Butyl Methyl Ether		ug/L	<2000	U
Methylcyclohexane		ug/L	<2000	U
Styrene		ug/L	<5000	U
Tetrachloroethylene (PCE)		ug/L	<2000	U



Table 2
Tank Management & Closure CCR
RC01 Analytical Results
Riverview Innovation & Technology Campus, Inc.
Town of Tonawanda, New York

Analytes	Sample ID:		RC01-WASH-01132022	
	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
Toluene		ug/L	<2000	U
Trichloroethylene (TCE)		ug/L	<2000	U
Trichlorofluoromethane		ug/L	<2000	U
Vinyl Chloride		ug/L	<2000	U
Cis-1,2-Dichloroethylene		ug/L	<2000	U
Cis-1,3-Dichloropropene		ug/L	<2000	U
m,p-Xylene		ug/L	<2000	U
O-Xylene (1,2-Dimethylbenzene)		ug/L	<2000	U
Trans-1,2-Dichloroethene		ug/L	<2000	U
Trans-1,3-Dichloropropene		ug/L	<2000	U
SVOCs SW8270D				
1,2,4,5-Tetrachlorobenzene		ug/L	<16000	U
2,3,4,6-Tetrachlorophenol		ug/L	<16000	U
2,4,5-Trichlorophenol		ug/L	<16000	U
2,4,6-Trichlorophenol		ug/L	<16000	U
2,4-Dichlorophenol		ug/L	<16000	U
2,4-Dimethylphenol		ug/L	<16000	U
2,4-Dinitrophenol		ug/L	<32000	U
2,4-Dinitrotoluene		ug/L	<16000	U
2,6-Dinitrotoluene		ug/L	<16000	U
2-Chloronaphthalene		ug/L	<16000	U
2-Chlorophenol		ug/L	<16000	U
2-Methylnaphthalene		ug/L	<16000	U
2-Methylphenol (O-Cresol)		ug/L	<16000	U
2-Nitroaniline		ug/L	<32000	U
2-Nitrophenol		ug/L	<16000	U
3,3'-Dichlorobenzidine		ug/L	<16000	U
Cresols, M & P		ug/L	10900	J
3-Nitroaniline		ug/L	<32000	U
4,6-Dinitro-2-Methylphenol		ug/L	<32000	U
4-Bromophenyl Phenyl Ether		ug/L	<16000	U
4-Chloro-3-Methylphenol		ug/L	<16000	U
4-Chloroaniline		ug/L	<16000	U
4-Chlorophenyl Phenyl Ether		ug/L	<16000	U
4-Nitroaniline		ug/L	<32000	U
4-Nitrophenol		ug/L	<32000	U
Acenaphthene		ug/L	<16000	U
Acenaphthylene		ug/L	<16000	U
Acetophenone		ug/L	<16000	U
Anthracene		ug/L	<16000	U
Atrazine		ug/L	<40000	U
Benzo(A)Anthracene		ug/L	<16000	U



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Town of Tonawanda, New York

Analytes	Sample ID:		RC01-WASH-01132022	
	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
Benzaldehyde		ug/L	<16000	U
Benzo(A)Pyrene		ug/L	<16000	U
Benzo(B)Fluoranthene		ug/L	<16000	U
Benzo(G,H,I)Perylene		ug/L	<16000	U
Benzo(K)Fluoranthene		ug/L	<16000	U
Biphenyl (Diphenyl)		ug/L	<16000	U
Bis(2-Chloroisopropyl) Ether		ug/L	NS	U
Bis(2-Chloroethoxy) Methane		ug/L	<16000	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)		ug/L	<16000	U
Bis(2-Ethylhexyl) Phthalate		ug/L	<16000	U
Benzyl Butyl Phthalate		ug/L	<16000	U
Caprolactam		ug/L	<16000	U
Carbazole		ug/L	<16000	U
Chrysene		ug/L	<16000	U
Di-N-Butyl Phthalate		ug/L	<16000	U
Di-N-Octylphthalate		ug/L	<16000	U
Dibenz(A,H)Anthracene		ug/L	<16000	U
Dibenzofuran		ug/L	<16000	U
Diethyl Phthalate		ug/L	<16000	U
Dimethyl Phthalate		ug/L	<32000	U
Fluoranthene		ug/L	<16000	U
Fluorene		ug/L	<16000	U
Hexachlorobenzene		ug/L	<16000	U
Hexachlorobutadiene		ug/L	<16000	U
Hexachlorocyclopentadiene		ug/L	<16000	U
Hexachloroethane		ug/L	<16000	U
Indeno(1,2,3-C,D)Pyrene		ug/L	<16000	U
Isophorone		ug/L	<16000	U
N-Nitrosodi-N-Propylamine		ug/L	<16000	U
N-Nitrosodiphenylamine		ug/L	<16000	U
Naphthalene		ug/L	<16000	U
Nitrobenzene		ug/L	<16000	U
Pentachlorophenol		ug/L	<32000	U
Phenanthrene		ug/L	<16000	U
Phenol		ug/L	107000	
Pyrene		ug/L	<16000	U



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Analytes	Sample ID:		RC01-WASH-01132022	
	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
TAL Metals SW6010				
Aluminum		mg/L	18.9	
Antimony		mg/L	<0.300	U
Arsenic		mg/L	0.125	
Barium		mg/L	1.49	
Beryllium		mg/L	<0.0250	U
Cadmium		mg/L	0.0504	
Calcium		mg/L	246	
Chromium, Total		mg/L	0.271	
Cobalt		mg/L	0.354	
Copper		mg/L	1.28	
Iron		mg/L	66.3	
Lead		mg/L	17.4	
Magnesium		mg/L	66.2	
Manganese		mg/L	4.50	
Molybdenum (RSI)*		mg/L	0.110	J
Nickel		mg/L	1.17	
Potassium		mg/L	27.0	
Selenium		mg/L	0.0927	J
Silver		mg/L	<0.0500	U
Sodium		mg/L	482	
Sulfur (RSI)* (6010C)		mg/L	562	
Thallium		mg/L	<0.125	U
Vanadium		mg/L	<0.125	U
Zinc		mg/L	125	
Mercury SW7471				
Mercury		mg/L	0.592	
Ammonia E350.1M				
Nitrogen, Ammonia (As N)		mg/L	77.6	
Cyanide SW9012B				
Cyanide		mg/L	3.85	



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	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
PCBs 8082A				
PCB-1016 (Aroclor 1016)		ug/L	<10.0	U
PCB-1221 (Aroclor 1221)		ug/L	<10.0	U
PCB-1232 (Aroclor 1232)		ug/L	<10.0	U
PCB-1242 (Aroclor 1242)		ug/L	<10.0	U
PCB-1248 (Aroclor 1248)		ug/L	<10.0	U
PCB-1254 (Aroclor 1254)		ug/L	<10.0	U
PCB-1260 (Aroclor 1260)		ug/L	<10.0	U
Pesticides 8081B				
P,P'-DDD		ug/L	<20.0	U
P,P'-DDE		ug/L	<20.0	U
P,P'-DDT		ug/L	<20.0	U
Aldrin		ug/L	<20.0	U
Dieldrin		ug/L	<20.0	U
Alpha Endosulfan		ug/L	<20.0	U
Beta Endosulfan		ug/L	<20.0	U
Endosulfan Sulfate		ug/L	<20.0	U
Endrin		ug/L	<20.0	U
Endrin Aldehyde		ug/L	<20.0	U
Endrin Ketone		ug/L	<20.0	U
Heptachlor		ug/L	<20.0	U
Heptachlor Epoxide		ug/L	<20.0	U
Methoxychlor		ug/L	<20.0	U
Toxaphene		ug/L	<200	U
Alpha Bhc (Alpha Hexachlorocyclohexane)		ug/L	<20.0	U
cis-Chlordane		ug/L	<20.0	U
Beta Bhc (Beta Hexachlorocyclohexane)		ug/L	<20.0	U
Delta BHC (Delta Hexachlorocyclohexane)		ug/L	<20.0	U
Gamma Bhc (Lindane)		ug/L	<20.0	U
Chlordane (Technical)		ug/L	<20.0	U
Herbicides SW8151A				
Acetic acid, (2,4,5-trichlorophenoxy)-		ug/L	<150	U
Silvex (2,4,5-TP)		ug/L	<150	U
2,4-D (Dichlorophenoxyacetic Acid)		ug/L	<250	U
Dicamba		ug/L	NS	



Table 2
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	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
TCLP VOCs - SW8260C				
1,2-Dichloroethane	500	ug/L	<500	U
Chlorobenzene	100,000	ug/L	<500	U
Tetrachloroethylene (PCE)	700	ug/L	<500	U
Carbon Tetrachloride	500	ug/L	<500	U
Chloroform	6,000	ug/L	<500	U
Benzene	500	ug/L	847	
Vinyl Chloride	200	ug/L	<500	U
1,1-Dichloroethene	700	ug/L	<500	U
Methyl Ethyl Ketone (2-Butanone)	200,000	ug/L	<2500	U
Trichloroethylene (TCE)	500	ug/L	<500	U
TCLP SVOCs- SW8270D				
1,4-Dichlorobenzene	7,500	ug/L	<4000	U
2,4,5-Trichlorophenol	400,000	ug/L	<4000	U
2,4,6-Trichlorophenol	2,000	ug/L	<4000	U
2,4-Dinitrotoluene	130	ug/L	<4000	U
2-Methylphenol (O-Cresol)	200,000	ug/L	NS	
Cresols, M & P	200,000	ug/L	NS	
Cresols (as m,p,o-Cresol)	-	ug/L	29500	
Hexachlorobenzene	130	ug/L	<4000	U
Hexachlorobutadiene	500	ug/L	<4000	U
Hexachloroethane	3,000	ug/L	<4000	U
Nitrobenzene	2,000	ug/L	<4000	U
Pentachlorophenol	100,000	ug/L	<8000	U
Pyridine	5,000	ug/L	<4000	U
TCLP Metals - SW6010				
Arsenic	5	mg/L	<0.500	U
Barium	100	mg/L	0.510	
Cadmium	1	mg/L	0.0128	
Chromium, Total	5	mg/L	<0.500	U
Lead	5	mg/L	7.76	
Selenium	1	mg/L	<0.200	U
Silver	5	mg/L	<0.500	U
TCLP Mercury- SW7470				
Mercury	0.2	mg/L	0.0555	



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	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
TCLP Pesticides - 8081B				
Chlordane	30	ug/L	<2.00	U
Endrin	20	ug/L	2.39	P
Gamma Bhc (Lindane)	400	ug/L	<1.00	U
Heptachlor	8	ug/L	<1.00	U
Heptachlor Epoxide	8	ug/L	<1.00	U
Methoxychlor	10,000	ug/L	2.00	
Toxaphene	500	ug/L	<20.0	U
TCLP Herbicides- SW8151A				
2,4-D (Dichlorophenoxyacetic Acid)	10	mg/L	<0.25	U
Silvex (2,4,5-TP)	1	mg/L	<0.25	U
SW9045D				
pH		ph units	6.48	
SW1010				
Flash Point		deg f	113	
1010MOD				
Ignitability		deg f	Ignitable	
SW7.3.3.2				
Reactive Cyanide		ug/g	<1.0	U
SW7.3.4.2				
Sulfide Reactive		ug/g	15	
A2540G				
Moisture, Percent		%	NS	
Total Solids		%	NS	



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 RC01 Analytical Results
 Riverview Innovation & Technology Campus, Inc.
 Town of Tonawanda, New York

Analytes	Sample ID:		RC01-WASH-01132022	
	Sample Date:		1/13/2022	
	Contents:		Tank Residuals mixed with decontamination water	
	Hazardous Waste Code(s):		D001, D0018, D008	
	Lab Report Number(s):		220210	
	TCLP Standards (ug/L)	Units	Rail Car No. 1 Contents & Decontamination Water	
BTU/High Heat Value				
BTU		BTU/lb	<500	U
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.				
Bold: Analyte was detected				
Bold with red highlight: Analyte exceeds TCLP standards or is characteristically hazardous for corrosivity, flammability, o				



INVENTUM ENGINEERING, PC

Attachment B – Photographic Log

Client Name: RITC	Date Photo was Taken: 11/9/2021	Project: RITC
Photo No. 1		
Direction Photo Taken: View is southwest.		
Description: RC01 was located near the southern property boundary. North and east face of tank, typical condition.		
Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 2		
Direction Photo Taken: View is southwest.		
Description: RC01 contents were pumped into 275-gallon totes for disposal. The tank atmosphere was monitored, sheared, and turned to allow access for cleaning.		



Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 1 Direction Photo Taken: View is east. Description: West face of RC01, typical condition.		
Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 2 Direction Photo Taken: View is northeast. Description: Underside of RC01, typical condition.		



Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 1		
Direction Photo Taken: View is south, of tank interior.		
Description: Cleaned interior of RC01, central section.		
Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 2		
Direction Photo Taken: View is southeast, of tank interior.		
Description: Cleaned interior of RC01, central section.		



Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 1		
Direction Photo Taken: View of eastern tank interior.		
Description: Cleaned interior of RC01, eastern section.		
Client Name: RITC	Date Photo was Taken: 11/15/2021	Project: RITC
Photo No. 2		
Direction Photo Taken: View of western tank interior.		
Description: Cleaned interior of RC01, western section.		



Client Name: RITC	Date Photo was Taken: 11/23/2021	Project: RITC
Photo No.		
Direction Photo Taken: View is southwest.		
Description: RC01 has been removed from southern property boundary and sheared for recycling.		





INVENTUM ENGINEERING, PC

Attachment C – Waste Manifests



MLKG

Form Approved, CMB No. 2050-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NYD08413877	2. Page 1 of 1	3. Emergency Response Phone 1-800-424-9300 516-374-6236	4. Manifest Tracking Number 001563696 VES	
5. Generator's Name and Mailing Address JOHN YENBAN RIVERVIEW INNOVATION & TECHNOLOGY CAMPUS 3875 River Road TONAWANDA, NY 14150 Buffalo, NY 14210 Generator's Phone: 716-374-6236						
6. Transporter 1 Company Name VEOLIA ES TECHNICAL SOLUTIONS				U.S. EPA ID Number NID080631369		
7. Transporter 2 Company Name FREED D CARTAGE INC				U.S. EPA ID Number NID054126164		
8. Designated Facility Name and Site Address VEOLIA ES TECHNICAL SOLUTIONS LLC 1 BENJAMIN LANE PLANTERS, NY 07836				U.S. EPA ID Number NID080536593		
Facility's Phone: 973-967-7111						
9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1. UN1993, WASTE FLAMMABLE LIQUIDS, n.o.s., (BENZENE), 3, R, RQ (2003)	2	IP	2500	P	D001 D008 B
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information EL Service Contracted by VBETS + MSD C.O.D.s + Consent retained by generator on-site agency authority on initial transporter to add or subtract additional transportation on generator's behalf. + 1) ERG-128 W:1089619 A:MARCHEWPUH						
15. GENERATOR'S/OFFEROR'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. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offeror's Printed/Typed Name Kirsten Colligan on behalf of RITE IKS on behalf of RITE 04/08/22						
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Part of entry/exit: _____ Date leaving U.S.: _____						
Transporter signature (for exports only): _____						
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name OWEN MOBB Signature [Signature] 04/08/22						
Transporter 2 Printed/Typed Name George Dudley Signature George Dudley 04/18/22						
18. Discrepancy 18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection						
Manifest Reference Number: _____ U.S. EPA ID Number: _____						
19. Alternate Facility (or Generator) Facility's Phone: _____ Month _____ Day _____ Year _____ 19a. Signature of Alternate Facility (or Generator): _____						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. A141 2. _____ 3. _____ 4. _____						
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a. Printed/Typed Name Michael Roman Signature [Signature] 04/19/22						



Land Disposal Restriction Notification Form

Generator Name RIVERVIEW INNOVATION & TECH

EPA ID Number NYD088413877

Manifest 001563896VES

This notice is being provided in accordance with 40 CFR 268.7 to inform you that this shipment contains waste restricted from land disposal by the USEPA under the land disposal restriction program. Identified below for each container is the designation of the waste as a wastewater or non-wastewater, the Clean Water Act (CWA) permit status associated with the treatment/disposal facility, applicable waste codes and any corresponding subcategories, list of any F001-F005 solvent constituents that are present in the waste, and any underlying hazardous constituents (UHC) that are present.

This notice is also being provided in accordance with 6 NYCRR 376.1(g)(1).

Container Number: JM-3926089050-001 (1/ 1)

WIP / Approval Code: 1088619 / MARCSWFUEL

Form Designation / CWA Status: Non-Wastewater / Non-CWA

Waste Codes (Subcategories): D001 (IGNITABLE CHARACTERISTIC WASTE, LIQUIDS >= 10% TOC PER 261.2 1(a)(1)), D008 (NONE), D019

Constituents (F001 - F005): None

UHCs Present: None

Treatment Requirements: Restricted waste requires treatment to applicable standards.

Additional Notices:

I hereby certify that all information in this and associated land disposal restriction documents is complete and accurate to the best of my knowledge and information.

Signature [Signature] on behalf of RITC

Title Project Manager

Date 01/08/22



INVENTUM ENGINEERING, PC

Attachment D – Laboratory Reports



March 22, 2021

Service Request No:R2101263

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

Laboratory Results for: RTTC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory February 11, 2021
For your reference, these analyses have been assigned our service request number **R2101263**.

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



Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Received: 02/11/2021

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:

Five nonaq liquid samples were received for analysis at ALS Environmental on 02/11/2021. 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, 02/24/2021: 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 8270D, 02/24/2021: 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.

Method 8270D, 02/24/2021: 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.

4,6-Dinitro-2-methylphenol has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. 4,6-Dinitro-2-methylphenol was detected at 90% and 98% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.

Method 8270D, R2101263-002, -005: 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. Sample results confirm. Only original analysis is reported. No further corrective action was required.

Method 8270D, 02/19/2021: 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 8270D, 02/19/2021: 2,4-Dinitrophenol has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. 2,4-Dinitrophenol was detected at 48% and 50% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.

Method 8270D, 02/19/2021: 4,6-dinitro-2-methylphenol has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. 4,6-dinitro-2-methylphenol was detected at 35% and 39% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.

Method 8270D, 02/25/2021: 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.

Approved by _____

Date 03/19/2021

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.

Method 8270D, 71R2101263-004: 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.

Semivolatile GC:

Method 8081B, 02/22/2021: The upper control limit was exceeded for one or more analytes in the closing 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, 02/22/2021: The lower control limit was exceeded for one or more analytes in the opening 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. CCV passed on secondary column. The data quality was not significantly affected and no further corrective action was taken.

Method 8081B, 714023s: 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, 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.

Method 8151A, r2101263-005: 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, 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.

Metals:

Method 6010C, R2101263-001,003: 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.

Subcontracted Analytical Parameters:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 8260C, 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.

Method 8260C, 713860: Sample(s) required dilution due to the foaming nature of the matrix and/or the presence of non-target compounds at high concentrations. The reporting limits are adjusted to reflect the dilution.



Approved by _____

Date 03/19/2021

This report was revised 3/22/21, the inorganic QC portion was missing.

Approved by 

Date 03/19/2021

SAMPLE DETECTION SUMMARY

CLIENT ID: TK-LQ-ST07-02092021			Lab ID: R2101263-001			
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen, undistilled	4.2	J	3.1	5.0	mg/Kg	350.1M
Benzene	7100	J	3900	97000	ug/Kg	8260C
Cyclohexane	190000		5100	190000	ug/Kg	8260C
Ethylbenzene	120000		3900	97000	ug/Kg	8260C
Isopropylbenzene (Cumene)	47000	J	3900	97000	ug/Kg	8260C
Methylcyclohexane	570000		3900	190000	ug/Kg	8260C
Tetrachloroethene (PCE)	22000	J	4100	97000	ug/Kg	8260C
Toluene	260000		3900	97000	ug/Kg	8260C
m,p-Xylenes	940000		3900	97000	ug/Kg	8260C
o-Xylene	280000		3900	97000	ug/Kg	8260C
2-Methylnaphthalene	110000	J	65000	490000	ug/Kg	8270D
Naphthalene	240000	J	60000	490000	ug/Kg	8270D
Endrin Aldehyde	1200			96	ug/Kg	8081B
beta-BHC	340			96	ug/Kg	8081B

CLIENT ID: TK-LQ-ST04-02092021			Lab ID: R2101263-002			
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Analyte	Results	Flag	MDL	MRL	Units	Method
Benzene	20000	J	4000	98000	ug/Kg	8260C
Cyclohexane	82000	J	5100	200000	ug/Kg	8260C
Ethylbenzene	600000		4000	98000	ug/Kg	8260C
Isopropylbenzene (Cumene)	450000		4000	98000	ug/Kg	8260C
Methylcyclohexane	600000		4000	200000	ug/Kg	8260C
Toluene	810000		4000	98000	ug/Kg	8260C
m,p-Xylenes	2000000		4000	98000	ug/Kg	8260C
o-Xylene	810000		4000	98000	ug/Kg	8260C
2,4-Dimethylphenol	140000		14000	99000	ug/Kg	8270D
2-Methylnaphthalene	2700000	D	65000	500000	ug/Kg	8270D
Acenaphthene	320000		14000	99000	ug/Kg	8270D
Anthracene	32000	J	13000	99000	ug/Kg	8270D
Biphenyl	250000		14000	99000	ug/Kg	8270D
Fluorene	320000		13000	99000	ug/Kg	8270D
Naphthalene	1400000	D	60000	500000	ug/Kg	8270D

CLIENT ID: TL-LQ-RC01-0210			Lab ID: R2101263-003			
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen, undistilled	7.1		3.1	5.0	mg/Kg	350.1M
2-Butanone (MEK)	3200	J	1600	20000	ug/Kg	8260C
Methyl Acetate	820	J	660	20000	ug/Kg	8260C
2-Methylnaphthalene	340000	J	65000	490000	ug/Kg	8270D
Acenaphthylene	200000	J	70000	490000	ug/Kg	8270D
Anthracene	160000	J	65000	490000	ug/Kg	8270D
Benz(a)anthracene	150000	J	80000	490000	ug/Kg	8270D

SAMPLE DETECTION SUMMARY

CLIENT ID: TL-LQ-RC01-0210	Lab ID: R2101263-003
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Analyte	Results	Flag	MDL	MRL	Units	Method
Benzo(a)pyrene	170000	J	60000	490000	ug/Kg	8270D
Benzo(b)fluoranthene	170000	J	60000	490000	ug/Kg	8270D
Benzo(g,h,i)perylene	160000	J	50000	490000	ug/Kg	8270D
Benzo(k)fluoranthene	66000	J	65000	490000	ug/Kg	8270D
Biphenyl	100000	J	70000	490000	ug/Kg	8270D
Caprolactam	140000	J	50000	490000	ug/Kg	8270D
Carbazole	110000	J	80000	490000	ug/Kg	8270D
Chrysene	130000	J	60000	490000	ug/Kg	8270D
Dibenzofuran	160000	J	70000	490000	ug/Kg	8270D
Fluoranthene	560000		75000	490000	ug/Kg	8270D
Fluorene	210000	J	65000	490000	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	140000	J	90000	490000	ug/Kg	8270D
Naphthalene	98000	J	60000	490000	ug/Kg	8270D
Phenanthrene	840000		70000	490000	ug/Kg	8270D
Pyrene	440000	J	75000	490000	ug/Kg	8270D
Aldrin	520			98	ug/Kg	8081B
Heptachlor	230			98	ug/Kg	8081B
alpha-BHC	470			98	ug/Kg	8081B
alpha-Chlordane	220			98	ug/Kg	8081B
beta-BHC	1000			98	ug/Kg	8081B

CLIENT ID: TK-LQ-RC03-02100	Lab ID: R2101263-004
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Analyte	Results	Flag	MDL	MRL	Units	Method
Benzene	580000		4000	100000	ug/Kg	8260C
Ethylbenzene	130000		4000	100000	ug/Kg	8260C
Isopropylbenzene (Cumene)	250000		4000	100000	ug/Kg	8260C
Methylcyclohexane	9000	J	4000	200000	ug/Kg	8260C
Styrene	120000		4000	100000	ug/Kg	8260C
Toluene	520000		4000	100000	ug/Kg	8260C
m,p-Xylenes	320000		4000	100000	ug/Kg	8260C
o-Xylene	370000		4000	100000	ug/Kg	8260C
2-Methylnaphthalene	2100000		65000	480000	ug/Kg	8270D
3- and 4-Methylphenol Coelution	330000	J	60000	480000	ug/Kg	8270D
Acenaphthene	330000	J	70000	480000	ug/Kg	8270D
Acenaphthylene	660000		70000	480000	ug/Kg	8270D
Anthracene	320000	J	65000	480000	ug/Kg	8270D
Benz(a)anthracene	270000	J	80000	480000	ug/Kg	8270D
Benzo(a)pyrene	250000	J	60000	480000	ug/Kg	8270D
Benzo(b)fluoranthene	290000	J	60000	480000	ug/Kg	8270D
Benzo(g,h,i)perylene	180000	J	50000	480000	ug/Kg	8270D
Benzo(k)fluoranthene	120000	J	65000	480000	ug/Kg	8270D
Biphenyl	400000	J	70000	480000	ug/Kg	8270D

SAMPLE DETECTION SUMMARY

CLIENT ID: TK-LQ-RC03-02100	Lab ID: R2101263-004
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Analyte	Results	Flag	MDL	MRL	Units	Method
Carbazole	95000	J	80000	480000	ug/Kg	8270D
Chrysene	270000	J	60000	480000	ug/Kg	8270D
Dibenzofuran	550000		70000	480000	ug/Kg	8270D
Fluoranthene	1200000		75000	480000	ug/Kg	8270D
Fluorene	490000		65000	480000	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	190000	J	90000	480000	ug/Kg	8270D
Naphthalene	3700000		60000	480000	ug/Kg	8270D
Phenanthrene	1700000		70000	480000	ug/Kg	8270D
Phenol	1900000		50000	480000	ug/Kg	8270D
Pyrene	940000		75000	480000	ug/Kg	8270D
4,4'-DDE	470			95	ug/Kg	8081B
2,4-D	150			95	ug/Kg	8151A
Heptachlor	650			95	ug/Kg	8081B
alpha-Chlordane	4900			95	ug/Kg	8081B
delta-BHC	150			95	ug/Kg	8081B
gamma-Chlordane	5600			95	ug/Kg	8081B

CLIENT ID: TK-SD-RC04-0210	Lab ID: R2101263-005
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen, undistilled	52.3		3.1	5.0	mg/Kg	350.1M
2-Butanone (MEK)	4000	J	3900	50000	ug/Kg	8260C
Benzene	1200	J	1000	25000	ug/Kg	8260C
m,p-Xylenes	1000	J	1000	25000	ug/Kg	8260C
2,4-Dimethylphenol	480000		14000	93000	ug/Kg	8270D
2-Methylphenol	2500000	D	50000	460000	ug/Kg	8270D
3- and 4-Methylphenol Coelution	8800000	D	240000	1900000	ug/Kg	8270D
Acenaphthylene	25000	J	14000	93000	ug/Kg	8270D
Anthracene	43000	J	13000	93000	ug/Kg	8270D
Benz(a)anthracene	51000	J	16000	93000	ug/Kg	8270D
Benzo(a)pyrene	57000	J	12000	93000	ug/Kg	8270D
Benzo(b)fluoranthene	62000	J	12000	93000	ug/Kg	8270D
Benzo(g,h,i)perylene	38000	J	10000	93000	ug/Kg	8270D
Benzo(k)fluoranthene	18000	J	13000	93000	ug/Kg	8270D
Carbazole	140000		16000	93000	ug/Kg	8270D
Chrysene	57000	J	12000	93000	ug/Kg	8270D
Dibenzofuran	20000	J	14000	93000	ug/Kg	8270D
Fluoranthene	170000		15000	93000	ug/Kg	8270D
Fluorene	34000	J	13000	93000	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	39000	J	18000	93000	ug/Kg	8270D
Naphthalene	160000		12000	93000	ug/Kg	8270D
Phenanthrene	200000		14000	93000	ug/Kg	8270D
Phenol	13000000	D	200000	1900000	ug/Kg	8270D

SAMPLE DETECTION SUMMARY**CLIENT ID: TK-SD-RC04-0210****Lab ID: R2101263-005**

Analyte	Results	Flag	MDL	MRL	Units	Method
Pyrene	120000		15000	93000	ug/Kg	8270D



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
Project: RTTC Tanks

Service Request:R2101263

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R2101263-001	TK-LQ-ST07-02092021	2/9/2021	1200
R2101263-002	TK-LQ-ST04-02092021	2/9/2021	1350
R2101263-003	TL-LQ-RC01-0210	2/10/2021	0930
R2101263-004	TK-LQ-RC03-02100	2/10/2021	1050
R2101263-005	TK-SD-RC04-0210	2/10/2021	1050

[illegible]



Cooler Receipt and Preservation Check Form

R2101263

Inventum Engineering
RTTC Tanks

5



Project/Client Inventum Folder Number _____

Cooler received on 2/11/21 by: SW

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y ☒ N
2	Custody papers properly completed (ink, signed)?	☒ N
3	Did all bottles arrive in good condition (unbroken)?	☒ N
4	Circle: Wet Ice Dry Ice Gel packs present?	☒ 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?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	☒ NA

3. Temperature Readings Date: 2/11/21 Time: 1612 ID: IR#7 IR#10 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>113</u>	<u>0.7°</u>					
Within 0-6°C?	☒ N	☒ 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 SW on 2/11/21 at 1612
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 2/12/21 Time: 1210 by: SW

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
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?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
≤2		HNO ₃								
≤2		H ₂ SO 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 ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O 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: 071320-17W

Explain all Discrepancies/ Other Comments:

Resid 1 fony unlabelled and can't identify location

HPROD	BULK
HTR	FLDT
<u>SUB</u>	HGFB
ALS	LL3541

Labels secondary reviewed by: SW

PC Secondary Review: _____

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

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Inventum Engineering
Project: RTTC Tanks

Service Request: R2101263

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2101263-001.01	8081B,8082A,350.1M				
		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/18/2021	0808	In Lab / VSTAUFFER	
		2/18/2021	1543	R-A03 / VSTAUFFER	
R2101263-001.03	6010C,6010C,6010C,6010C,6010C,6010C,6010C,7471B,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C	2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-001.27	8260C				
		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/23/2021	1224	In Lab / KRUEST	
		2/23/2021	1705	R-A03 / KRUEST	
R2101263-001.28		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-001.29		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-001.32		2/12/2021	1216	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-001.33		2/12/2021	1308	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-001.34	8270D,8151A				
		2/12/2021	1309	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-002.01	8151A,8081B,8082A,8270D,350.1M,8270D,8270D				
		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Inventum Engineering
Project: RTTC Tanks

Service Request: R2101263

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8151A,8081B,8082A,8270D,350.1M,8270D,8270D	2/18/2021	0808	In Lab / VSTAUFFER	
		2/18/2021	1543	R-A03 / VSTAUFFER	
		2/19/2021	0758	In Lab / VSTAUFFER	
		2/19/2021	1358	R-A03 / VSTAUFFER	
R2101263-002.03					
	7471B,6010C	2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/16/2021	0926	In Lab / AKONZEL	
		2/16/2021	1030	R-A03 / AKONZEL	
R2101263-002.27					
	8260C	2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/23/2021	1224	In Lab / KRUEST	
		2/23/2021	1705	R-A03 / KRUEST	
R2101263-002.28					
		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-002.29					
		2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-002.31					
		2/12/2021	1215	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-002.32					
		2/12/2021	1216	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-003.01					
	8081B,8082A,350.1M	2/12/2021	1214	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/18/2021	0808	In Lab / VSTAUFFER	
		2/18/2021	1542	R-A03 / VSTAUFFER	
R2101263-003.03					

Internal Chain of Custody Report

Service Request: R2101263

[illegible]

Client: Inventum Engineering
Project: RTTC Tanks

Client: Inventum Engineering
Project: RTTC Tanks

Client: Inventum Engineering
Project: RTTC Tanks

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Inventum Engineering
Project: RTTC Tanks

Service Request: R2101263

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8270D,350.1M,8270D,8270D,8151A,8081B,8082A,8270D	2/18/2021	0808	In Lab / VSTAUFFER	
		2/18/2021	1542	R-A03 / VSTAUFFER	
		2/19/2021	0758	In Lab / VSTAUFFER	
		2/19/2021	1357	R-A03 / VSTAUFFER	
R2101263-005.03	7471B,6010C	2/12/2021	1307	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/16/2021	0926	In Lab / AKONZEL	
		2/16/2021	1030	R-A03 / AKONZEL	
R2101263-005.27					
		2/12/2021	1307	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-005.28	8260C				
		2/12/2021	1307	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
		2/23/2021	1225	In Lab / KRUEST	
		2/23/2021	1705	R-A03 / KRUEST	
R2101263-005.31					
		2/12/2021	1307	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-005.32					
		2/12/2021	1307	SMO / GLAFORCE	
		2/12/2021	1309	R-A03 / GLAFORCE	
R2101263-005.33					
		2/12/2021	1311	SMO / GLAFORCE	
		2/23/2021	0812	In Lab / VSTAUFFER	
		2/23/2021	1557	R-A03 / VSTAUFFER	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

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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.	+	Correlation coefficient for MSA is <0.995.
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/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
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.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (100% Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	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 Certifications¹

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 laboratory's 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: RTTC Tanks/

Service Request: R2101263

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001
Sample Matrix: NonAq Liquid

Date Collected: 02/9/21
Date Received: 02/11/21

Analysis Method	Extracted/Digested By	Analyzed By
350.1M	CWOODS	SMEDBURY
6010C	AKONZEL	KMCLAEN
7471B	AKONZEL	AKONZEL
8081B	JMISIUREWICZ	AFELSER
8082A	JMISIUREWICZ	BALLGEIER
8151A	JMISIUREWICZ	BALLGEIER
8260C		KRUEST
8270D	VSTAUFFER	JMISIUREWICZ

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002
Sample Matrix: NonAq Liquid

Date Collected: 02/9/21
Date Received: 02/11/21

Analysis Method	Extracted/Digested By	Analyzed By
350.1M	CWOODS	SMEDBURY
6010C	AKONZEL	KMCLAEN
7471B	AKONZEL	AKONZEL
8081B	JMISIUREWICZ	AFELSER
8082A	JMISIUREWICZ	BALLGEIER
8151A	JMISIUREWICZ	BALLGEIER
8260C		KRUEST
8270D	VSTAUFFER	JMISIUREWICZ

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002.R01
Sample Matrix: NonAq Liquid

Date Collected: 02/9/21
Date Received: 02/11/21

Analysis Method	Extracted/Digested By	Analyzed By
8270D	VSTAUFFER	JMISIUREWICZ

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Analyst Summary report

Client: Inventum Engineering
Project: RTTC Tanks/

Service Request: R2101263

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002.R02
Sample Matrix: NonAq Liquid

Date Collected: 02/9/21
Date Received: 02/11/21

Analysis Method
8270D

Extracted/Digested By
VSTAUFFER

Analyzed By
JMISIUREWICZ

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21
Date Received: 02/11/21

Analysis Method

350.1M
6010C
7471B
8081B
8082A
8151A
8260C
8270D

Extracted/Digested By

CWOODS
AKONZEL
AKONZEL
JMISIUREWICZ
JMISIUREWICZ
JMISIUREWICZ
VSTAUFFER

Analyzed By

SMEDBURY
KMCLAEN
AKONZEL
AFELSER
BALLGEIER
BALLGEIER
KRUEST
JMISIUREWICZ

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21
Date Received: 02/11/21

Analysis Method

350.1M
6010C
7471B
8081B
8082A
8151A
8260C
8270D

Extracted/Digested By

CWOODS
AKONZEL
AKONZEL
JMISIUREWICZ
JMISIUREWICZ
JMISIUREWICZ
VSTAUFFER

Analyzed By

SMEDBURY
KMCLAEN
AKONZEL
AFELSER
BALLGEIER
BALLGEIER
KRUEST
JMISIUREWICZ

ALS Group USA, Corp.

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Analyst Summary report

Client: Inventum Engineering
Project: RTTC Tanks/

Service Request: R2101263

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004.R01
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21**Date Received:** 02/11/21**Analysis Method**

8270D

Extracted/Digested By

VSTAUFFER

Analyzed By

JMISIUREWICZ

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21**Date Received:** 02/11/21**Analysis Method**

350.1M

6010C

7471B

8081B

8082A

8151A

8260C

8270D

Extracted/Digested By

CWOODS

AKONZEL

AKONZEL

JMISIUREWICZ

JMISIUREWICZ

JMISIUREWICZ

VSTAUFFER

Analyzed By

SMEDBURY

KMCLAEN

AKONZEL

AFELSER

BALLGEIER

BALLGEIER

KRUEST

JMISIUREWICZ

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005.R01
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21**Date Received:** 02/11/21**Analysis Method**

8270D

Extracted/Digested By

VSTAUFFER

Analyzed By

JMISIUREWICZ

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005.R02
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21**Date Received:** 02/11/21**Analysis Method**

8270D

Extracted/Digested By

VSTAUFFER

Analyzed By

JMISIUREWICZ

ALS Group USA, Corp.
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Analyst Summary report

Client: Inventum Engineering
Project: RTTC Tanks/

Service Request: R2101263

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005.R03
Sample Matrix: NonAq Liquid

Date Collected: 02/10/21
Date Received: 02/11/21

Analysis Method
8270D

Extracted/Digested By
VSTAUFFER

Analyzed By
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

ALS Environmental—Rochester Laboratory

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Volatile Organic Compounds by GC/MS

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	3900 U	97000	3900	19420	02/23/21 15:31	
1,1,2,2-Tetrachloroethane	3900 U	97000	3900	19420	02/23/21 15:31	
1,1,2-Trichloroethane	3900 U	97000	3900	19420	02/23/21 15:31	
1,1,2-Trichloro-1,2,2-trifluoroethane	3900 U	97000	3900	19420	02/23/21 15:31	
1,1-Dichloroethane (1,1-DCA)	3900 U	97000	3900	19420	02/23/21 15:31	
1,1-Dichloroethene (1,1-DCE)	3900 U	97000	3900	19420	02/23/21 15:31	
1,2,3-Trichlorobenzene	4900 U	97000	4900	19420	02/23/21 15:31	
1,2,4-Trichlorobenzene	6700 U	97000	6700	19420	02/23/21 15:31	
1,2-Dibromo-3-chloropropane (DBCP)	8800 U	97000	8800	19420	02/23/21 15:31	
1,2-Dibromoethane	3900 U	97000	3900	19420	02/23/21 15:31	
1,2-Dichlorobenzene	3900 U	97000	3900	19420	02/23/21 15:31	
1,2-Dichloroethane	3900 U	97000	3900	19420	02/23/21 15:31	
1,2-Dichloropropane	3900 U	97000	3900	19420	02/23/21 15:31	
1,3-Dichlorobenzene	3900 U	97000	3900	19420	02/23/21 15:31	
1,4-Dichlorobenzene	3900 U	97000	3900	19420	02/23/21 15:31	
1,4-Dioxane	260000 U	1900000	260000	19420	02/23/21 15:31	
2-Butanone (MEK)	16000 U	190000	16000	19420	02/23/21 15:31	
2-Hexanone	3900 U	190000	3900	19420	02/23/21 15:31	
4-Methyl-2-pentanone	3900 U	190000	3900	19420	02/23/21 15:31	
Acetone	41000 U	190000	41000	19420	02/23/21 15:31	
Benzene	7100 J	97000	3900	19420	02/23/21 15:31	
Bromochloromethane	3900 U	97000	3900	19420	02/23/21 15:31	
Bromodichloromethane	3900 U	97000	3900	19420	02/23/21 15:31	
Bromoform	4900 U	97000	4900	19420	02/23/21 15:31	
Bromomethane	14000 U	97000	14000	19420	02/23/21 15:31	
Carbon Disulfide	8200 U	190000	8200	19420	02/23/21 15:31	
Carbon Tetrachloride	6700 U	97000	6700	19420	02/23/21 15:31	
Chlorobenzene	3900 U	97000	3900	19420	02/23/21 15:31	
Chloroethane	4500 U	97000	4500	19420	02/23/21 15:31	
Chloroform	4700 U	97000	4700	19420	02/23/21 15:31	
Chloromethane	5500 U	97000	5500	19420	02/23/21 15:31	
Cyclohexane	190000	190000	5100	19420	02/23/21 15:31	
Dibromochloromethane	3900 U	97000	3900	19420	02/23/21 15:31	
Dichlorodifluoromethane (CFC 12)	4100 U	97000	4100	19420	02/23/21 15:31	
Dichloromethane	13000 U	97000	13000	19420	02/23/21 15:31	
Ethylbenzene	120000	97000	3900	19420	02/23/21 15:31	
Isopropylbenzene (Cumene)	47000 J	97000	3900	19420	02/23/21 15:31	
Methyl Acetate	6500 U	190000	6500	19420	02/23/21 15:31	
Methyl tert-Butyl Ether	3900 U	97000	3900	19420	02/23/21 15:31	
Methylcyclohexane	570000	190000	3900	19420	02/23/21 15:31	
Styrene	3900 U	97000	3900	19420	02/23/21 15:31	
Tetrachloroethene (PCE)	22000 J	97000	4100	19420	02/23/21 15:31	
Toluene	260000	97000	3900	19420	02/23/21 15:31	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	3900 U	97000	3900	19420	02/23/21 15:31	
Trichlorofluoromethane (CFC 11)	4700 U	97000	4700	19420	02/23/21 15:31	
Vinyl Chloride	3900 U	97000	3900	19420	02/23/21 15:31	
cis-1,2-Dichloroethene	4500 U	97000	4500	19420	02/23/21 15:31	
cis-1,3-Dichloropropene	3900 U	97000	3900	19420	02/23/21 15:31	
m,p-Xylenes	940000	97000	3900	19420	02/23/21 15:31	
o-Xylene	280000	97000	3900	19420	02/23/21 15:31	
trans-1,2-Dichloroethene	3900 U	97000	3900	19420	02/23/21 15:31	
trans-1,3-Dichloropropene	4500 U	97000	4500	19420	02/23/21 15:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	31 - 154	02/23/21 15:31	
Dibromofluoromethane	102	63 - 138	02/23/21 15:31	
Toluene-d8	103	66 - 138	02/23/21 15:31	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	4000 U	98000	4000	19600	02/23/21 15:53	
1,1,2,2-Tetrachloroethane	4000 U	98000	4000	19600	02/23/21 15:53	
1,1,2-Trichloroethane	4000 U	98000	4000	19600	02/23/21 15:53	
1,1,2-Trichloro-1,2,2-trifluoroethane	4000 U	98000	4000	19600	02/23/21 15:53	
1,1-Dichloroethane (1,1-DCA)	4000 U	98000	4000	19600	02/23/21 15:53	
1,1-Dichloroethene (1,1-DCE)	4000 U	98000	4000	19600	02/23/21 15:53	
1,2,3-Trichlorobenzene	4900 U	98000	4900	19600	02/23/21 15:53	
1,2,4-Trichlorobenzene	6700 U	98000	6700	19600	02/23/21 15:53	
1,2-Dibromo-3-chloropropane (DBCP)	8900 U	98000	8900	19600	02/23/21 15:53	
1,2-Dibromoethane	4000 U	98000	4000	19600	02/23/21 15:53	
1,2-Dichlorobenzene	4000 U	98000	4000	19600	02/23/21 15:53	
1,2-Dichloroethane	4000 U	98000	4000	19600	02/23/21 15:53	
1,2-Dichloropropane	4000 U	98000	4000	19600	02/23/21 15:53	
1,3-Dichlorobenzene	4000 U	98000	4000	19600	02/23/21 15:53	
1,4-Dichlorobenzene	4000 U	98000	4000	19600	02/23/21 15:53	
1,4-Dioxane	260000 U	2000000	260000	19600	02/23/21 15:53	
2-Butanone (MEK)	16000 U	200000	16000	19600	02/23/21 15:53	
2-Hexanone	4000 U	200000	4000	19600	02/23/21 15:53	
4-Methyl-2-pentanone	4000 U	200000	4000	19600	02/23/21 15:53	
Acetone	42000 U	200000	42000	19600	02/23/21 15:53	
Benzene	20000 J	98000	4000	19600	02/23/21 15:53	
Bromochloromethane	4000 U	98000	4000	19600	02/23/21 15:53	
Bromodichloromethane	4000 U	98000	4000	19600	02/23/21 15:53	
Bromoform	4900 U	98000	4900	19600	02/23/21 15:53	
Bromomethane	14000 U	98000	14000	19600	02/23/21 15:53	
Carbon Disulfide	8300 U	200000	8300	19600	02/23/21 15:53	
Carbon Tetrachloride	6700 U	98000	6700	19600	02/23/21 15:53	
Chlorobenzene	4000 U	98000	4000	19600	02/23/21 15:53	
Chloroethane	4600 U	98000	4600	19600	02/23/21 15:53	
Chloroform	4800 U	98000	4800	19600	02/23/21 15:53	
Chloromethane	5500 U	98000	5500	19600	02/23/21 15:53	
Cyclohexane	82000 J	200000	5100	19600	02/23/21 15:53	
Dibromochloromethane	4000 U	98000	4000	19600	02/23/21 15:53	
Dichlorodifluoromethane (CFC 12)	4200 U	98000	4200	19600	02/23/21 15:53	
Dichloromethane	13000 U	98000	13000	19600	02/23/21 15:53	
Ethylbenzene	600000	98000	4000	19600	02/23/21 15:53	
Isopropylbenzene (Cumene)	450000	98000	4000	19600	02/23/21 15:53	
Methyl Acetate	6500 U	200000	6500	19600	02/23/21 15:53	
Methyl tert-Butyl Ether	4000 U	98000	4000	19600	02/23/21 15:53	
Methylcyclohexane	600000	200000	4000	19600	02/23/21 15:53	
Styrene	4000 U	98000	4000	19600	02/23/21 15:53	
Tetrachloroethene (PCE)	4200 U	98000	4200	19600	02/23/21 15:53	
Toluene	810000	98000	4000	19600	02/23/21 15:53	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	4000 U	98000	4000	19600	02/23/21 15:53	
Trichlorofluoromethane (CFC 11)	4800 U	98000	4800	19600	02/23/21 15:53	
Vinyl Chloride	4000 U	98000	4000	19600	02/23/21 15:53	
cis-1,2-Dichloroethene	4600 U	98000	4600	19600	02/23/21 15:53	
cis-1,3-Dichloropropene	4000 U	98000	4000	19600	02/23/21 15:53	
m,p-Xylenes	2000000	98000	4000	19600	02/23/21 15:53	
o-Xylene	810000	98000	4000	19600	02/23/21 15:53	
trans-1,2-Dichloroethene	4000 U	98000	4000	19600	02/23/21 15:53	
trans-1,3-Dichloropropene	4600 U	98000	4600	19600	02/23/21 15:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	31 - 154	02/23/21 15:53	
Dibromofluoromethane	100	63 - 138	02/23/21 15:53	
Toluene-d8	104	66 - 138	02/23/21 15:53	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	400 U	10000	400	2000	02/23/21 20:15	
1,1,2,2-Tetrachloroethane	400 U	10000	400	2000	02/23/21 20:15	
1,1,2-Trichloroethane	400 U	10000	400	2000	02/23/21 20:15	
1,1,2-Trichloro-1,2,2-trifluoroethane	400 U	10000	400	2000	02/23/21 20:15	
1,1-Dichloroethane (1,1-DCA)	400 U	10000	400	2000	02/23/21 20:15	
1,1-Dichloroethene (1,1-DCE)	400 U	10000	400	2000	02/23/21 20:15	
1,2,3-Trichlorobenzene	500 U	10000	500	2000	02/23/21 20:15	
1,2,4-Trichlorobenzene	680 U	10000	680	2000	02/23/21 20:15	
1,2-Dibromo-3-chloropropane (DBCP)	900 U	10000	900	2000	02/23/21 20:15	
1,2-Dibromoethane	400 U	10000	400	2000	02/23/21 20:15	
1,2-Dichlorobenzene	400 U	10000	400	2000	02/23/21 20:15	
1,2-Dichloroethane	400 U	10000	400	2000	02/23/21 20:15	
1,2-Dichloropropane	400 U	10000	400	2000	02/23/21 20:15	
1,3-Dichlorobenzene	400 U	10000	400	2000	02/23/21 20:15	
1,4-Dichlorobenzene	400 U	10000	400	2000	02/23/21 20:15	
1,4-Dioxane	26000 U	200000	26000	2000	02/23/21 20:15	
2-Butanone (MEK)	3200 J	20000	1600	2000	02/23/21 20:15	
2-Hexanone	400 U	20000	400	2000	02/23/21 20:15	
4-Methyl-2-pentanone	400 U	20000	400	2000	02/23/21 20:15	
Acetone	4200 U	20000	4200	2000	02/23/21 20:15	
Benzene	400 U	10000	400	2000	02/23/21 20:15	
Bromochloromethane	400 U	10000	400	2000	02/23/21 20:15	
Bromodichloromethane	400 U	10000	400	2000	02/23/21 20:15	
Bromoform	500 U	10000	500	2000	02/23/21 20:15	
Bromomethane	1400 U	10000	1400	2000	02/23/21 20:15	
Carbon Disulfide	840 U	20000	840	2000	02/23/21 20:15	
Carbon Tetrachloride	680 U	10000	680	2000	02/23/21 20:15	
Chlorobenzene	400 U	10000	400	2000	02/23/21 20:15	
Chloroethane	460 U	10000	460	2000	02/23/21 20:15	
Chloroform	480 U	10000	480	2000	02/23/21 20:15	
Chloromethane	560 U	10000	560	2000	02/23/21 20:15	
Cyclohexane	520 U	20000	520	2000	02/23/21 20:15	
Dibromochloromethane	400 U	10000	400	2000	02/23/21 20:15	
Dichlorodifluoromethane (CFC 12)	420 U	10000	420	2000	02/23/21 20:15	
Dichloromethane	1300 U	10000	1300	2000	02/23/21 20:15	
Ethylbenzene	400 U	10000	400	2000	02/23/21 20:15	
Isopropylbenzene (Cumene)	400 U	10000	400	2000	02/23/21 20:15	
Methyl Acetate	820 J	20000	660	2000	02/23/21 20:15	
Methyl tert-Butyl Ether	400 U	10000	400	2000	02/23/21 20:15	
Methylcyclohexane	400 U	20000	400	2000	02/23/21 20:15	
Styrene	400 U	10000	400	2000	02/23/21 20:15	
Tetrachloroethene (PCE)	420 U	10000	420	2000	02/23/21 20:15	
Toluene	400 U	10000	400	2000	02/23/21 20:15	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	400 U	10000	400	2000	02/23/21 20:15	
Trichlorofluoromethane (CFC 11)	480 U	10000	480	2000	02/23/21 20:15	
Vinyl Chloride	400 U	10000	400	2000	02/23/21 20:15	
cis-1,2-Dichloroethene	460 U	10000	460	2000	02/23/21 20:15	
cis-1,3-Dichloropropene	400 U	10000	400	2000	02/23/21 20:15	
m,p-Xylenes	400 U	10000	400	2000	02/23/21 20:15	
o-Xylene	400 U	10000	400	2000	02/23/21 20:15	
trans-1,2-Dichloroethene	400 U	10000	400	2000	02/23/21 20:15	
trans-1,3-Dichloropropene	460 U	10000	460	2000	02/23/21 20:15	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	31 - 154	02/23/21 20:15	
Dibromofluoromethane	100	63 - 138	02/23/21 20:15	
Toluene-d8	103	66 - 138	02/23/21 20:15	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	4000 U	100000	4000	20000	02/23/21 16:36	
1,1,2,2-Tetrachloroethane	4000 U	100000	4000	20000	02/23/21 16:36	
1,1,2-Trichloroethane	4000 U	100000	4000	20000	02/23/21 16:36	
1,1,2-Trichloro-1,2,2-trifluoroethane	4000 U	100000	4000	20000	02/23/21 16:36	
1,1-Dichloroethane (1,1-DCA)	4000 U	100000	4000	20000	02/23/21 16:36	
1,1-Dichloroethene (1,1-DCE)	4000 U	100000	4000	20000	02/23/21 16:36	
1,2,3-Trichlorobenzene	5000 U	100000	5000	20000	02/23/21 16:36	
1,2,4-Trichlorobenzene	6900 U	100000	6900	20000	02/23/21 16:36	
1,2-Dibromo-3-chloropropane (DBCP)	9000 U	100000	9000	20000	02/23/21 16:36	
1,2-Dibromoethane	4000 U	100000	4000	20000	02/23/21 16:36	
1,2-Dichlorobenzene	4000 U	100000	4000	20000	02/23/21 16:36	
1,2-Dichloroethane	4000 U	100000	4000	20000	02/23/21 16:36	
1,2-Dichloropropane	4000 U	100000	4000	20000	02/23/21 16:36	
1,3-Dichlorobenzene	4000 U	100000	4000	20000	02/23/21 16:36	
1,4-Dichlorobenzene	4000 U	100000	4000	20000	02/23/21 16:36	
1,4-Dioxane	260000 U	2000000	260000	20000	02/23/21 16:36	
2-Butanone (MEK)	16000 U	200000	16000	20000	02/23/21 16:36	
2-Hexanone	4000 U	200000	4000	20000	02/23/21 16:36	
4-Methyl-2-pentanone	4000 U	200000	4000	20000	02/23/21 16:36	
Acetone	42000 U	200000	42000	20000	02/23/21 16:36	
Benzene	580000	100000	4000	20000	02/23/21 16:36	
Bromochloromethane	4000 U	100000	4000	20000	02/23/21 16:36	
Bromodichloromethane	4000 U	100000	4000	20000	02/23/21 16:36	
Bromoform	5000 U	100000	5000	20000	02/23/21 16:36	
Bromomethane	14000 U	100000	14000	20000	02/23/21 16:36	
Carbon Disulfide	8400 U	200000	8400	20000	02/23/21 16:36	
Carbon Tetrachloride	6900 U	100000	6900	20000	02/23/21 16:36	
Chlorobenzene	4000 U	100000	4000	20000	02/23/21 16:36	
Chloroethane	4600 U	100000	4600	20000	02/23/21 16:36	
Chloroform	4800 U	100000	4800	20000	02/23/21 16:36	
Chloromethane	5700 U	100000	5700	20000	02/23/21 16:36	
Cyclohexane	5200 U	200000	5200	20000	02/23/21 16:36	
Dibromochloromethane	4000 U	100000	4000	20000	02/23/21 16:36	
Dichlorodifluoromethane (CFC 12)	4200 U	100000	4200	20000	02/23/21 16:36	
Dichloromethane	13000 U	100000	13000	20000	02/23/21 16:36	
Ethylbenzene	130000	100000	4000	20000	02/23/21 16:36	
Isopropylbenzene (Cumene)	250000	100000	4000	20000	02/23/21 16:36	
Methyl Acetate	6600 U	200000	6600	20000	02/23/21 16:36	
Methyl tert-Butyl Ether	4000 U	100000	4000	20000	02/23/21 16:36	
Methylcyclohexane	9000 J	200000	4000	20000	02/23/21 16:36	
Styrene	120000	100000	4000	20000	02/23/21 16:36	
Tetrachloroethene (PCE)	4200 U	100000	4200	20000	02/23/21 16:36	
Toluene	520000	100000	4000	20000	02/23/21 16:36	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	4000 U	100000	4000	20000	02/23/21 16:36	
Trichlorofluoromethane (CFC 11)	4800 U	100000	4800	20000	02/23/21 16:36	
Vinyl Chloride	4000 U	100000	4000	20000	02/23/21 16:36	
cis-1,2-Dichloroethene	4600 U	100000	4600	20000	02/23/21 16:36	
cis-1,3-Dichloropropene	4000 U	100000	4000	20000	02/23/21 16:36	
m,p-Xylenes	320000	100000	4000	20000	02/23/21 16:36	
o-Xylene	370000	100000	4000	20000	02/23/21 16:36	
trans-1,2-Dichloroethene	4000 U	100000	4000	20000	02/23/21 16:36	
trans-1,3-Dichloropropene	4600 U	100000	4600	20000	02/23/21 16:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	31 - 154	02/23/21 16:36	
Dibromofluoromethane	98	63 - 138	02/23/21 16:36	
Toluene-d8	103	66 - 138	02/23/21 16:36	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	1000 U	25000	1000	5000	02/23/21 19:53	
1,1,2,2-Tetrachloroethane	1000 U	25000	1000	5000	02/23/21 19:53	
1,1,2-Trichloroethane	1000 U	25000	1000	5000	02/23/21 19:53	
1,1,2-Trichloro-1,2,2-trifluoroethane	1000 U	25000	1000	5000	02/23/21 19:53	
1,1-Dichloroethane (1,1-DCA)	1000 U	25000	1000	5000	02/23/21 19:53	
1,1-Dichloroethene (1,1-DCE)	1000 U	25000	1000	5000	02/23/21 19:53	
1,2,3-Trichlorobenzene	1300 U	25000	1300	5000	02/23/21 19:53	
1,2,4-Trichlorobenzene	1700 U	25000	1700	5000	02/23/21 19:53	
1,2-Dibromo-3-chloropropane (DBCP)	2300 U	25000	2300	5000	02/23/21 19:53	
1,2-Dibromoethane	1000 U	25000	1000	5000	02/23/21 19:53	
1,2-Dichlorobenzene	1000 U	25000	1000	5000	02/23/21 19:53	
1,2-Dichloroethane	1000 U	25000	1000	5000	02/23/21 19:53	
1,2-Dichloropropane	1000 U	25000	1000	5000	02/23/21 19:53	
1,3-Dichlorobenzene	1000 U	25000	1000	5000	02/23/21 19:53	
1,4-Dichlorobenzene	1000 U	25000	1000	5000	02/23/21 19:53	
1,4-Dioxane	65000 U	500000	65000	5000	02/23/21 19:53	
2-Butanone (MEK)	4000 J	50000	3900	5000	02/23/21 19:53	
2-Hexanone	1000 U	50000	1000	5000	02/23/21 19:53	
4-Methyl-2-pentanone	1000 U	50000	1000	5000	02/23/21 19:53	
Acetone	11000 U	50000	11000	5000	02/23/21 19:53	
Benzene	1200 J	25000	1000	5000	02/23/21 19:53	
Bromochloromethane	1000 U	25000	1000	5000	02/23/21 19:53	
Bromodichloromethane	1000 U	25000	1000	5000	02/23/21 19:53	
Bromoform	1300 U	25000	1300	5000	02/23/21 19:53	
Bromomethane	3500 U	25000	3500	5000	02/23/21 19:53	
Carbon Disulfide	2100 U	50000	2100	5000	02/23/21 19:53	
Carbon Tetrachloride	1700 U	25000	1700	5000	02/23/21 19:53	
Chlorobenzene	1000 U	25000	1000	5000	02/23/21 19:53	
Chloroethane	1200 U	25000	1200	5000	02/23/21 19:53	
Chloroform	1200 U	25000	1200	5000	02/23/21 19:53	
Chloromethane	1400 U	25000	1400	5000	02/23/21 19:53	
Cyclohexane	1300 U	50000	1300	5000	02/23/21 19:53	
Dibromochloromethane	1000 U	25000	1000	5000	02/23/21 19:53	
Dichlorodifluoromethane (CFC 12)	1100 U	25000	1100	5000	02/23/21 19:53	
Dichloromethane	3300 U	25000	3300	5000	02/23/21 19:53	
Ethylbenzene	1000 U	25000	1000	5000	02/23/21 19:53	
Isopropylbenzene (Cumene)	1000 U	25000	1000	5000	02/23/21 19:53	
Methyl Acetate	1700 U	50000	1700	5000	02/23/21 19:53	
Methyl tert-Butyl Ether	1000 U	25000	1000	5000	02/23/21 19:53	
Methylcyclohexane	1000 U	50000	1000	5000	02/23/21 19:53	
Styrene	1000 U	25000	1000	5000	02/23/21 19:53	
Tetrachloroethene (PCE)	1100 U	25000	1100	5000	02/23/21 19:53	
Toluene	1000 U	25000	1000	5000	02/23/21 19:53	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	1000 U	25000	1000	5000	02/23/21 19:53	
Trichlorofluoromethane (CFC 11)	1200 U	25000	1200	5000	02/23/21 19:53	
Vinyl Chloride	1000 U	25000	1000	5000	02/23/21 19:53	
cis-1,2-Dichloroethene	1200 U	25000	1200	5000	02/23/21 19:53	
cis-1,3-Dichloropropene	1000 U	25000	1000	5000	02/23/21 19:53	
m,p-Xylenes	1000 J	25000	1000	5000	02/23/21 19:53	
o-Xylene	1000 U	25000	1000	5000	02/23/21 19:53	
trans-1,2-Dichloroethene	1000 U	25000	1000	5000	02/23/21 19:53	
trans-1,3-Dichloropropene	1200 U	25000	1200	5000	02/23/21 19:53	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	31 - 154	02/23/21 19:53	
Dibromofluoromethane	98	63 - 138	02/23/21 19:53	
Toluene-d8	103	66 - 138	02/23/21 19:53	



Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
2,3,4,6-Tetrachlorophenol	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
2,4,5-Trichlorophenol	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
2,4,6-Trichlorophenol	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
2,4-Dichlorophenol	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
2,4-Dimethylphenol	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
2,4-Dinitrophenol	1000000 U	2400000	1000000	5	02/19/21 00:55	2/18/21	
2,4-Dinitrotoluene	120000 U	490000	120000	5	02/19/21 00:55	2/18/21	
2,6-Dinitrotoluene	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
2-Chloronaphthalene	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
2-Chlorophenol	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
2-Methylnaphthalene	110000 J	490000	65000	5	02/19/21 00:55	2/18/21	
2-Methylphenol	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
2-Nitroaniline	70000 U	2400000	70000	5	02/19/21 00:55	2/18/21	
2-Nitrophenol	75000 U	490000	75000	5	02/19/21 00:55	2/18/21	
3,3'-Dichlorobenzidine	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
3- and 4-Methylphenol Coelution	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
3-Nitroaniline	130000 U	2400000	130000	5	02/19/21 00:55	2/18/21	
4,6-Dinitro-2-methylphenol	1000000 U	2400000	1000000	5	02/19/21 00:55	2/18/21	
4-Bromophenyl Phenyl Ether	85000 U	490000	85000	5	02/19/21 00:55	2/18/21	
4-Chloro-3-methylphenol	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
4-Chloroaniline	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
4-Chlorophenyl Phenyl Ether	75000 U	490000	75000	5	02/19/21 00:55	2/18/21	
4-Nitroaniline	140000 U	2400000	140000	5	02/19/21 00:55	2/18/21	
4-Nitrophenol	320000 U	2400000	320000	5	02/19/21 00:55	2/18/21	
Acenaphthene	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Acenaphthylene	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Acetophenone	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Anthracene	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Atrazine	110000 U	490000	110000	5	02/19/21 00:55	2/18/21	
Benz(a)anthracene	80000 U	490000	80000	5	02/19/21 00:55	2/18/21	
Benzaldehyde	190000 U	2400000	190000	5	02/19/21 00:55	2/18/21	
Benzo(a)pyrene	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
Benzo(b)fluoranthene	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
Benzo(g,h,i)perylene	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
Benzo(k)fluoranthene	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Biphenyl	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
2,2'-Oxybis(1-chloropropane)	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Bis(2-chloroethoxy)methane	95000 U	490000	95000	5	02/19/21 00:55	2/18/21	
Bis(2-chloroethyl) Ether	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Bis(2-ethylhexyl) Phthalate	390000 U	490000	390000	5	02/19/21 00:55	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Caprolactam	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
Carbazole	80000 U	490000	80000	5	02/19/21 00:55	2/18/21	
Chrysene	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
Di-n-butyl Phthalate	85000 U	490000	85000	5	02/19/21 00:55	2/18/21	
Di-n-octyl Phthalate	170000 U	490000	170000	5	02/19/21 00:55	2/18/21	
Dibenz(a,h)anthracene	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
Dibenzofuran	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Diethyl Phthalate	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
Dimethyl Phthalate	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Fluoranthene	75000 U	490000	75000	5	02/19/21 00:55	2/18/21	
Fluorene	65000 U	490000	65000	5	02/19/21 00:55	2/18/21	
Hexachlorobenzene	80000 U	490000	80000	5	02/19/21 00:55	2/18/21	
Hexachlorobutadiene	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
Hexachlorocyclopentadiene	110000 U	490000	110000	5	02/19/21 00:55	2/18/21	
Hexachloroethane	55000 U	490000	55000	5	02/19/21 00:55	2/18/21	
Indeno(1,2,3-cd)pyrene	90000 U	490000	90000	5	02/19/21 00:55	2/18/21	
Isophorone	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
N-Nitrosodi-n-propylamine	60000 U	490000	60000	5	02/19/21 00:55	2/18/21	
N-Nitrosodiphenylamine	140000 U	490000	140000	5	02/19/21 00:55	2/18/21	
Naphthalene	240000 J	490000	60000	5	02/19/21 00:55	2/18/21	
Nitrobenzene	75000 U	490000	75000	5	02/19/21 00:55	2/18/21	
Pentachlorophenol (PCP)	490000 U	2400000	490000	5	02/19/21 00:55	2/18/21	
Phenanthrene	70000 U	490000	70000	5	02/19/21 00:55	2/18/21	
Phenol	50000 U	490000	50000	5	02/19/21 00:55	2/18/21	
Pyrene	75000 U	490000	75000	5	02/19/21 00:55	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	81	10 - 180	02/19/21 00:55	
2-Fluorobiphenyl	90	49 - 157	02/19/21 00:55	
2-Fluorophenol	81	59 - 113	02/19/21 00:55	
Nitrobenzene-d5	119	66 - 143	02/19/21 00:55	
Phenol-d6	82	35 - 125	02/19/21 00:55	
Terphenyl-d14	98	72 - 172	02/19/21 00:55	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
2,3,4,6-Tetrachlorophenol	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
2,4,5-Trichlorophenol	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
2,4,6-Trichlorophenol	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
2,4-Dichlorophenol	13000 U	99000	13000	1	02/19/21 01:22	2/18/21	
2,4-Dimethylphenol	140000	99000	14000	1	02/19/21 01:22	2/18/21	
2,4-Dinitrophenol	200000 U	500000	200000	1	02/19/21 01:22	2/18/21	
2,4-Dinitrotoluene	24000 U	99000	24000	1	02/19/21 01:22	2/18/21	
2,6-Dinitrotoluene	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
2-Chloronaphthalene	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
2-Chlorophenol	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
2-Methylnaphthalene	2700000 D	500000	65000	5	02/22/21 17:52	2/18/21	
2-Methylphenol	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
2-Nitroaniline	14000 U	500000	14000	1	02/19/21 01:22	2/18/21	
2-Nitrophenol	15000 U	99000	15000	1	02/19/21 01:22	2/18/21	
3,3'-Dichlorobenzidine	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
3- and 4-Methylphenol Coelution	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
3-Nitroaniline	25000 U	500000	25000	1	02/19/21 01:22	2/18/21	
4,6-Dinitro-2-methylphenol	200000 U	500000	200000	1	02/19/21 01:22	2/18/21	
4-Bromophenyl Phenyl Ether	17000 U	99000	17000	1	02/19/21 01:22	2/18/21	
4-Chloro-3-methylphenol	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
4-Chloroaniline	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
4-Chlorophenyl Phenyl Ether	15000 U	99000	15000	1	02/19/21 01:22	2/18/21	
4-Nitroaniline	27000 U	500000	27000	1	02/19/21 01:22	2/18/21	
4-Nitrophenol	64000 U	500000	64000	1	02/19/21 01:22	2/18/21	
Acenaphthene	320000	99000	14000	1	02/19/21 01:22	2/18/21	
Acenaphthylene	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
Acetophenone	13000 U	99000	13000	1	02/19/21 01:22	2/18/21	
Anthracene	32000 J	99000	13000	1	02/19/21 01:22	2/18/21	
Atrazine	21000 U	99000	21000	1	02/19/21 01:22	2/18/21	
Benz(a)anthracene	16000 U	99000	16000	1	02/19/21 01:22	2/18/21	
Benzaldehyde	37000 U	500000	37000	1	02/19/21 01:22	2/18/21	
Benzo(a)pyrene	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
Benzo(b)fluoranthene	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
Benzo(g,h,i)perylene	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
Benzo(k)fluoranthene	13000 U	99000	13000	1	02/19/21 01:22	2/18/21	
Biphenyl	250000	99000	14000	1	02/19/21 01:22	2/18/21	
2,2'-Oxybis(1-chloropropane)	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
Bis(2-chloroethoxy)methane	19000 U	99000	19000	1	02/19/21 01:22	2/18/21	
Bis(2-chloroethyl) Ether	13000 U	99000	13000	1	02/19/21 01:22	2/18/21	
Bis(2-ethylhexyl) Phthalate	78000 U	99000	78000	1	02/19/21 01:22	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
Caprolactam	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
Carbazole	16000 U	99000	16000	1	02/19/21 01:22	2/18/21	
Chrysene	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
Di-n-butyl Phthalate	17000 U	99000	17000	1	02/19/21 01:22	2/18/21	
Di-n-octyl Phthalate	33000 U	99000	33000	1	02/19/21 01:22	2/18/21	
Dibenz(a,h)anthracene	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
Dibenzofuran	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
Diethyl Phthalate	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
Dimethyl Phthalate	13000 U	99000	13000	1	02/19/21 01:22	2/18/21	
Fluoranthene	15000 U	99000	15000	1	02/19/21 01:22	2/18/21	
Fluorene	320000	99000	13000	1	02/19/21 01:22	2/18/21	
Hexachlorobenzene	16000 U	99000	16000	1	02/19/21 01:22	2/18/21	
Hexachlorobutadiene	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
Hexachlorocyclopentadiene	22000 U	99000	22000	1	02/19/21 01:22	2/18/21	
Hexachloroethane	11000 U	99000	11000	1	02/19/21 01:22	2/18/21	
Indeno(1,2,3-cd)pyrene	18000 U	99000	18000	1	02/19/21 01:22	2/18/21	
Isophorone	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
N-Nitrosodi-n-propylamine	12000 U	99000	12000	1	02/19/21 01:22	2/18/21	
N-Nitrosodiphenylamine	27000 U	99000	27000	1	02/19/21 01:22	2/18/21	
Naphthalene	1400000 D	500000	60000	5	02/22/21 17:52	2/18/21	
Nitrobenzene	15000 U	99000	15000	1	02/19/21 01:22	2/18/21	
Pentachlorophenol (PCP)	97000 U	500000	97000	1	02/19/21 01:22	2/18/21	
Phenanthrene	14000 U	99000	14000	1	02/19/21 01:22	2/18/21	
Phenol	10000 U	99000	10000	1	02/19/21 01:22	2/18/21	
Pyrene	15000 U	99000	15000	1	02/19/21 01:22	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	67	10 - 180	02/19/21 01:22	
2-Fluorobiphenyl	102	49 - 157	02/19/21 01:22	
2-Fluorophenol	98	59 - 113	02/19/21 01:22	
Nitrobenzene-d5	605 *	66 - 143	02/19/21 01:22	*
Phenol-d6	98	35 - 125	02/19/21 01:22	
Terphenyl-d14	86	72 - 172	02/19/21 01:22	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	60000 U	490000	60000	5	02/19/21 01:49	2/18/21	
2,3,4,6-Tetrachlorophenol	60000 U	490000	60000	5	02/19/21 01:49	2/18/21	
2,4,5-Trichlorophenol	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
2,4,6-Trichlorophenol	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
2,4-Dichlorophenol	65000 U	490000	65000	5	02/19/21 01:49	2/18/21	
2,4-Dimethylphenol	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
2,4-Dinitrophenol	1000000 U	2400000	1000000	5	02/19/21 01:49	2/18/21	
2,4-Dinitrotoluene	120000 U	490000	120000	5	02/19/21 01:49	2/18/21	
2,6-Dinitrotoluene	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
2-Chloronaphthalene	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
2-Chlorophenol	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
2-Methylnaphthalene	340000 J	490000	65000	5	02/19/21 01:49	2/18/21	
2-Methylphenol	50000 U	490000	50000	5	02/19/21 01:49	2/18/21	
2-Nitroaniline	70000 U	2400000	70000	5	02/19/21 01:49	2/18/21	
2-Nitrophenol	75000 U	490000	75000	5	02/19/21 01:49	2/18/21	
3,3'-Dichlorobenzidine	60000 U	490000	60000	5	02/19/21 01:49	2/18/21	
3- and 4-Methylphenol Coelution	60000 U	490000	60000	5	02/19/21 01:49	2/18/21	
3-Nitroaniline	130000 U	2400000	130000	5	02/19/21 01:49	2/18/21	
4,6-Dinitro-2-methylphenol	1000000 U	2400000	1000000	5	02/19/21 01:49	2/18/21	
4-Bromophenyl Phenyl Ether	85000 U	490000	85000	5	02/19/21 01:49	2/18/21	
4-Chloro-3-methylphenol	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
4-Chloroaniline	50000 U	490000	50000	5	02/19/21 01:49	2/18/21	
4-Chlorophenyl Phenyl Ether	75000 U	490000	75000	5	02/19/21 01:49	2/18/21	
4-Nitroaniline	140000 U	2400000	140000	5	02/19/21 01:49	2/18/21	
4-Nitrophenol	320000 U	2400000	320000	5	02/19/21 01:49	2/18/21	
Acenaphthene	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
Acenaphthylene	200000 J	490000	70000	5	02/19/21 01:49	2/18/21	
Acetophenone	65000 U	490000	65000	5	02/19/21 01:49	2/18/21	
Anthracene	160000 J	490000	65000	5	02/19/21 01:49	2/18/21	
Atrazine	110000 U	490000	110000	5	02/19/21 01:49	2/18/21	
Benz(a)anthracene	150000 J	490000	80000	5	02/19/21 01:49	2/18/21	
Benzaldehyde	190000 U	2400000	190000	5	02/19/21 01:49	2/18/21	
Benzo(a)pyrene	170000 J	490000	60000	5	02/19/21 01:49	2/18/21	
Benzo(b)fluoranthene	170000 J	490000	60000	5	02/19/21 01:49	2/18/21	
Benzo(g,h,i)perylene	160000 J	490000	50000	5	02/19/21 01:49	2/18/21	
Benzo(k)fluoranthene	66000 J	490000	65000	5	02/19/21 01:49	2/18/21	
Biphenyl	100000 J	490000	70000	5	02/19/21 01:49	2/18/21	
2,2'-Oxybis(1-chloropropane)	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
Bis(2-chloroethoxy)methane	95000 U	490000	95000	5	02/19/21 01:49	2/18/21	
Bis(2-chloroethyl) Ether	65000 U	490000	65000	5	02/19/21 01:49	2/18/21	
Bis(2-ethylhexyl) Phthalate	390000 U	490000	390000	5	02/19/21 01:49	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
Caprolactam	140000 J	490000	50000	5	02/19/21 01:49	2/18/21	
Carbazole	110000 J	490000	80000	5	02/19/21 01:49	2/18/21	
Chrysene	130000 J	490000	60000	5	02/19/21 01:49	2/18/21	
Di-n-butyl Phthalate	85000 U	490000	85000	5	02/19/21 01:49	2/18/21	
Di-n-octyl Phthalate	170000 U	490000	170000	5	02/19/21 01:49	2/18/21	
Dibenz(a,h)anthracene	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
Dibenzofuran	160000 J	490000	70000	5	02/19/21 01:49	2/18/21	
Diethyl Phthalate	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
Dimethyl Phthalate	65000 U	490000	65000	5	02/19/21 01:49	2/18/21	
Fluoranthene	560000	490000	75000	5	02/19/21 01:49	2/18/21	
Fluorene	210000 J	490000	65000	5	02/19/21 01:49	2/18/21	
Hexachlorobenzene	80000 U	490000	80000	5	02/19/21 01:49	2/18/21	
Hexachlorobutadiene	50000 U	490000	50000	5	02/19/21 01:49	2/18/21	
Hexachlorocyclopentadiene	110000 U	490000	110000	5	02/19/21 01:49	2/18/21	
Hexachloroethane	55000 U	490000	55000	5	02/19/21 01:49	2/18/21	
Indeno(1,2,3-cd)pyrene	140000 J	490000	90000	5	02/19/21 01:49	2/18/21	
Isophorone	70000 U	490000	70000	5	02/19/21 01:49	2/18/21	
N-Nitrosodi-n-propylamine	60000 U	490000	60000	5	02/19/21 01:49	2/18/21	
N-Nitrosodiphenylamine	140000 U	490000	140000	5	02/19/21 01:49	2/18/21	
Naphthalene	98000 J	490000	60000	5	02/19/21 01:49	2/18/21	
Nitrobenzene	75000 U	490000	75000	5	02/19/21 01:49	2/18/21	
Pentachlorophenol (PCP)	490000 U	2400000	490000	5	02/19/21 01:49	2/18/21	
Phenanthrene	840000	490000	70000	5	02/19/21 01:49	2/18/21	
Phenol	50000 U	490000	50000	5	02/19/21 01:49	2/18/21	
Pyrene	440000 J	490000	75000	5	02/19/21 01:49	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	69	10 - 180	02/19/21 01:49	
2-Fluorobiphenyl	77	49 - 157	02/19/21 01:49	
2-Fluorophenol	73	59 - 113	02/19/21 01:49	
Nitrobenzene-d5	77	66 - 143	02/19/21 01:49	
Phenol-d6	66	35 - 125	02/19/21 01:49	
Terphenyl-d14	91	72 - 172	02/19/21 01:49	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	60000 U	480000	60000	5	02/19/21 02:17	2/18/21	
2,3,4,6-Tetrachlorophenol	60000 U	480000	60000	5	02/19/21 02:17	2/18/21	
2,4,5-Trichlorophenol	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
2,4,6-Trichlorophenol	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
2,4-Dichlorophenol	65000 U	480000	65000	5	02/19/21 02:17	2/18/21	
2,4-Dimethylphenol	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
2,4-Dinitrophenol	1000000 U	2400000	1000000	5	02/19/21 02:17	2/18/21	
2,4-Dinitrotoluene	120000 U	480000	120000	5	02/19/21 02:17	2/18/21	
2,6-Dinitrotoluene	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
2-Chloronaphthalene	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
2-Chlorophenol	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
2-Methylnaphthalene	2100000	480000	65000	5	02/19/21 02:17	2/18/21	
2-Methylphenol	50000 U	480000	50000	5	02/19/21 02:17	2/18/21	
2-Nitroaniline	70000 U	2400000	70000	5	02/19/21 02:17	2/18/21	
2-Nitrophenol	75000 U	480000	75000	5	02/19/21 02:17	2/18/21	
3,3'-Dichlorobenzidine	60000 U	480000	60000	5	02/19/21 02:17	2/18/21	
3- and 4-Methylphenol Coelution	330000 J	480000	60000	5	02/19/21 02:17	2/18/21	
3-Nitroaniline	130000 U	2400000	130000	5	02/19/21 02:17	2/18/21	
4,6-Dinitro-2-methylphenol	1000000 U	2400000	1000000	5	02/19/21 02:17	2/18/21	
4-Bromophenyl Phenyl Ether	85000 U	480000	85000	5	02/19/21 02:17	2/18/21	
4-Chloro-3-methylphenol	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
4-Chloroaniline	50000 U	480000	50000	5	02/19/21 02:17	2/18/21	
4-Chlorophenyl Phenyl Ether	75000 U	480000	75000	5	02/19/21 02:17	2/18/21	
4-Nitroaniline	140000 U	2400000	140000	5	02/19/21 02:17	2/18/21	
4-Nitrophenol	320000 U	2400000	320000	5	02/19/21 02:17	2/18/21	
Acenaphthene	330000 J	480000	70000	5	02/19/21 02:17	2/18/21	
Acenaphthylene	660000	480000	70000	5	02/19/21 02:17	2/18/21	
Acetophenone	65000 U	480000	65000	5	02/19/21 02:17	2/18/21	
Anthracene	320000 J	480000	65000	5	02/19/21 02:17	2/18/21	
Atrazine	110000 U	480000	110000	5	02/19/21 02:17	2/18/21	
Benz(a)anthracene	270000 J	480000	80000	5	02/19/21 02:17	2/18/21	
Benzaldehyde	190000 U	2400000	190000	5	02/19/21 02:17	2/18/21	
Benzo(a)pyrene	250000 J	480000	60000	5	02/19/21 02:17	2/18/21	
Benzo(b)fluoranthene	290000 J	480000	60000	5	02/19/21 02:17	2/18/21	
Benzo(g,h,i)perylene	180000 J	480000	50000	5	02/19/21 02:17	2/18/21	
Benzo(k)fluoranthene	120000 J	480000	65000	5	02/19/21 02:17	2/18/21	
Biphenyl	400000 J	480000	70000	5	02/19/21 02:17	2/18/21	
2,2'-Oxybis(1-chloropropane)	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
Bis(2-chloroethoxy)methane	95000 U	480000	95000	5	02/19/21 02:17	2/18/21	
Bis(2-chloroethyl) Ether	65000 U	480000	65000	5	02/19/21 02:17	2/18/21	
Bis(2-ethylhexyl) Phthalate	390000 U	480000	390000	5	02/19/21 02:17	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
Caprolactam	50000 U	480000	50000	5	02/19/21 02:17	2/18/21	
Carbazole	95000 J	480000	80000	5	02/19/21 02:17	2/18/21	
Chrysene	270000 J	480000	60000	5	02/19/21 02:17	2/18/21	
Di-n-butyl Phthalate	85000 U	480000	85000	5	02/19/21 02:17	2/18/21	
Di-n-octyl Phthalate	170000 U	480000	170000	5	02/19/21 02:17	2/18/21	
Dibenz(a,h)anthracene	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
Dibenzofuran	550000	480000	70000	5	02/19/21 02:17	2/18/21	
Diethyl Phthalate	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
Dimethyl Phthalate	65000 U	480000	65000	5	02/19/21 02:17	2/18/21	
Fluoranthene	1200000	480000	75000	5	02/19/21 02:17	2/18/21	
Fluorene	490000	480000	65000	5	02/19/21 02:17	2/18/21	
Hexachlorobenzene	80000 U	480000	80000	5	02/19/21 02:17	2/18/21	
Hexachlorobutadiene	50000 U	480000	50000	5	02/19/21 02:17	2/18/21	
Hexachlorocyclopentadiene	110000 U	480000	110000	5	02/19/21 02:17	2/18/21	
Hexachloroethane	55000 U	480000	55000	5	02/19/21 02:17	2/18/21	
Indeno(1,2,3-cd)pyrene	190000 J	480000	90000	5	02/19/21 02:17	2/18/21	
Isophorone	70000 U	480000	70000	5	02/19/21 02:17	2/18/21	
N-Nitrosodi-n-propylamine	60000 U	480000	60000	5	02/19/21 02:17	2/18/21	
N-Nitrosodiphenylamine	140000 U	480000	140000	5	02/19/21 02:17	2/18/21	
Naphthalene	3700000	480000	60000	5	02/19/21 02:17	2/18/21	
Nitrobenzene	75000 U	480000	75000	5	02/19/21 02:17	2/18/21	
Pentachlorophenol (PCP)	490000 U	2400000	490000	5	02/19/21 02:17	2/18/21	
Phenanthrene	1700000	480000	70000	5	02/19/21 02:17	2/18/21	
Phenol	1900000	480000	50000	5	02/19/21 02:17	2/18/21	
Pyrene	940000	480000	75000	5	02/19/21 02:17	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	77	10 - 180	02/19/21 02:17	
2-Fluorobiphenyl	90	49 - 157	02/19/21 02:17	
2-Fluorophenol	87	59 - 113	02/19/21 02:17	
Nitrobenzene-d5	95	66 - 143	02/19/21 02:17	
Phenol-d6	87	35 - 125	02/19/21 02:17	
Terphenyl-d14	71 *	72 - 172	02/19/21 02:17	*

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	12000 U	93000	12000	1	02/19/21 02:44	2/18/21	
2,3,4,6-Tetrachlorophenol	12000 U	93000	12000	1	02/19/21 02:44	2/18/21	
2,4,5-Trichlorophenol	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
2,4,6-Trichlorophenol	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
2,4-Dichlorophenol	13000 U	93000	13000	1	02/19/21 02:44	2/18/21	
2,4-Dimethylphenol	480000	93000	14000	1	02/19/21 02:44	2/18/21	
2,4-Dinitrophenol	200000 U	460000	200000	1	02/19/21 02:44	2/18/21	
2,4-Dinitrotoluene	24000 U	93000	24000	1	02/19/21 02:44	2/18/21	
2,6-Dinitrotoluene	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
2-Chloronaphthalene	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
2-Chlorophenol	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
2-Methylnaphthalene	260000 U	1900000	260000	20	02/25/21 14:34	2/18/21	
2-Methylphenol	2500000 D	460000	50000	5	02/22/21 18:21	2/18/21	
2-Nitroaniline	14000 U	460000	14000	1	02/19/21 02:44	2/18/21	
2-Nitrophenol	15000 U	93000	15000	1	02/19/21 02:44	2/18/21	
3,3'-Dichlorobenzidine	12000 U	93000	12000	1	02/19/21 02:44	2/18/21	
3- and 4-Methylphenol Coelution	8800000 D	1900000	240000	20	02/25/21 14:34	2/18/21	
3-Nitroaniline	25000 U	460000	25000	1	02/19/21 02:44	2/18/21	
4,6-Dinitro-2-methylphenol	200000 U	460000	200000	1	02/19/21 02:44	2/18/21	
4-Bromophenyl Phenyl Ether	17000 U	93000	17000	1	02/19/21 02:44	2/18/21	
4-Chloro-3-methylphenol	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
4-Chloroaniline	10000 U	93000	10000	1	02/19/21 02:44	2/18/21	
4-Chlorophenyl Phenyl Ether	15000 U	93000	15000	1	02/19/21 02:44	2/18/21	
4-Nitroaniline	27000 U	460000	27000	1	02/19/21 02:44	2/18/21	
4-Nitrophenol	64000 U	460000	64000	1	02/19/21 02:44	2/18/21	
Acenaphthene	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
Acenaphthylene	25000 J	93000	14000	1	02/19/21 02:44	2/18/21	
Acetophenone	13000 U	93000	13000	1	02/19/21 02:44	2/18/21	
Anthracene	43000 J	93000	13000	1	02/19/21 02:44	2/18/21	
Atrazine	21000 U	93000	21000	1	02/19/21 02:44	2/18/21	
Benz(a)anthracene	51000 J	93000	16000	1	02/19/21 02:44	2/18/21	
Benzaldehyde	37000 U	460000	37000	1	02/19/21 02:44	2/18/21	
Benzo(a)pyrene	57000 J	93000	12000	1	02/19/21 02:44	2/18/21	
Benzo(b)fluoranthene	62000 J	93000	12000	1	02/19/21 02:44	2/18/21	
Benzo(g,h,i)perylene	38000 J	93000	10000	1	02/19/21 02:44	2/18/21	
Benzo(k)fluoranthene	18000 J	93000	13000	1	02/19/21 02:44	2/18/21	
Biphenyl	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
2,2'-Oxybis(1-chloropropane)	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
Bis(2-chloroethoxy)methane	19000 U	93000	19000	1	02/19/21 02:44	2/18/21	
Bis(2-chloroethyl) Ether	13000 U	93000	13000	1	02/19/21 02:44	2/18/21	
Bis(2-ethylhexyl) Phthalate	78000 U	93000	78000	1	02/19/21 02:44	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
Caprolactam	10000 U	93000	10000	1	02/19/21 02:44	2/18/21	
Carbazole	140000	93000	16000	1	02/19/21 02:44	2/18/21	
Chrysene	57000 J	93000	12000	1	02/19/21 02:44	2/18/21	
Di-n-butyl Phthalate	17000 U	93000	17000	1	02/19/21 02:44	2/18/21	
Di-n-octyl Phthalate	33000 U	93000	33000	1	02/19/21 02:44	2/18/21	
Dibenz(a,h)anthracene	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
Dibenzofuran	20000 J	93000	14000	1	02/19/21 02:44	2/18/21	
Diethyl Phthalate	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
Dimethyl Phthalate	13000 U	93000	13000	1	02/19/21 02:44	2/18/21	
Fluoranthene	170000	93000	15000	1	02/19/21 02:44	2/18/21	
Fluorene	34000 J	93000	13000	1	02/19/21 02:44	2/18/21	
Hexachlorobenzene	16000 U	93000	16000	1	02/19/21 02:44	2/18/21	
Hexachlorobutadiene	10000 U	93000	10000	1	02/19/21 02:44	2/18/21	
Hexachlorocyclopentadiene	22000 U	93000	22000	1	02/19/21 02:44	2/18/21	
Hexachloroethane	11000 U	93000	11000	1	02/19/21 02:44	2/18/21	
Indeno(1,2,3-cd)pyrene	39000 J	93000	18000	1	02/19/21 02:44	2/18/21	
Isophorone	14000 U	93000	14000	1	02/19/21 02:44	2/18/21	
N-Nitrosodi-n-propylamine	12000 U	93000	12000	1	02/19/21 02:44	2/18/21	
N-Nitrosodiphenylamine	27000 U	93000	27000	1	02/19/21 02:44	2/18/21	
Naphthalene	160000	93000	12000	1	02/19/21 02:44	2/18/21	
Nitrobenzene	15000 U	93000	15000	1	02/19/21 02:44	2/18/21	
Pentachlorophenol (PCP)	97000 U	460000	97000	1	02/19/21 02:44	2/18/21	
Phenanthrene	200000	93000	14000	1	02/19/21 02:44	2/18/21	
Phenol	13000000 D	1900000	200000	20	02/25/21 14:34	2/18/21	
Pyrene	120000	93000	15000	1	02/19/21 02:44	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	0 *	10 - 180	02/19/21 02:44	*
2-Fluorobiphenyl	112	49 - 157	02/19/21 02:44	
2-Fluorophenol	0 *	59 - 113	02/19/21 02:44	*
Nitrobenzene-d5	75	66 - 143	02/19/21 02:44	
Phenol-d6	6 *	35 - 125	02/19/21 02:44	*
Terphenyl-d14	124	72 - 172	02/19/21 02:44	



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	96 U	96	-	1	02/22/21 15:24	2/18/21	
4,4'-DDE	96 U	96	-	1	02/22/21 15:24	2/18/21	
4,4'-DDT	96 U	96	-	1	02/22/21 15:24	2/18/21	
Aldrin	96 U	96	-	1	02/22/21 15:24	2/18/21	
Dieldrin	96 U	96	-	1	02/22/21 15:24	2/18/21	
Endosulfan I	96 U	96	-	1	02/22/21 15:24	2/18/21	
Endosulfan II	96 U	96	-	1	02/22/21 15:24	2/18/21	
Endosulfan Sulfate	96 U	96	-	1	02/22/21 15:24	2/18/21	
Endrin	96 U	96	-	1	02/22/21 15:24	2/18/21	
Endrin Aldehyde	1200	96	-	1	02/22/21 15:24	2/18/21	
Endrin Ketone	96 U	96	-	1	02/22/21 15:24	2/18/21	
Heptachlor	96 U	96	-	1	02/22/21 15:24	2/18/21	
Heptachlor Epoxide	96 U	96	-	1	02/22/21 15:24	2/18/21	
Methoxychlor	96 U	96	-	1	02/22/21 15:24	2/18/21	
Toxaphene	96 U	96	-	1	02/22/21 15:24	2/18/21	
alpha-BHC	96 U	96	-	1	02/22/21 15:24	2/18/21	
alpha-Chlordane	96 U	96	-	1	02/22/21 15:24	2/18/21	
beta-BHC	340	96	-	1	02/22/21 15:24	2/18/21	
delta-BHC	96 U	96	-	1	02/22/21 15:24	2/18/21	
gamma-BHC (Lindane)	96 U	96	-	1	02/22/21 15:24	2/18/21	
gamma-Chlordane	96 U	96	-	1	02/22/21 15:24	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	89	10 - 164	02/22/21 15:24	
Tetrachloro-m-xylene	78	10 - 147	02/22/21 15:24	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	91 U	91	-	1	02/22/21 15:43	2/18/21	
4,4'-DDE	91 U	91	-	1	02/22/21 15:43	2/18/21	
4,4'-DDT	91 U	91	-	1	02/22/21 15:43	2/18/21	
Aldrin	91 U	91	-	1	02/22/21 15:43	2/18/21	
Dieldrin	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endosulfan I	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endosulfan II	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endosulfan Sulfate	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endrin	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endrin Aldehyde	91 U	91	-	1	02/22/21 15:43	2/18/21	
Endrin Ketone	91 U	91	-	1	02/22/21 15:43	2/18/21	
Heptachlor	91 U	91	-	1	02/22/21 15:43	2/18/21	
Heptachlor Epoxide	91 U	91	-	1	02/22/21 15:43	2/18/21	
Methoxychlor	91 U	91	-	1	02/22/21 15:43	2/18/21	
Toxaphene	91 U	91	-	1	02/22/21 15:43	2/18/21	
alpha-BHC	91 U	91	-	1	02/22/21 15:43	2/18/21	
alpha-Chlordane	91 U	91	-	1	02/22/21 15:43	2/18/21	
beta-BHC	91 U	91	-	1	02/22/21 15:43	2/18/21	
delta-BHC	91 U	91	-	1	02/22/21 15:43	2/18/21	
gamma-BHC (Lindane)	91 U	91	-	1	02/22/21 15:43	2/18/21	
gamma-Chlordane	91 U	91	-	1	02/22/21 15:43	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	84	10 - 164	02/22/21 15:43	
Tetrachloro-m-xylene	72	10 - 147	02/22/21 15:43	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	98 U	98	-	1	02/24/21 01:51	2/18/21	
4,4'-DDE	98 U	98	-	1	02/24/21 01:51	2/18/21	
4,4'-DDT	98 U	98	-	1	02/24/21 01:51	2/18/21	
Aldrin	520	98	-	1	02/24/21 01:51	2/18/21	
Dieldrin	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endosulfan I	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endosulfan II	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endosulfan Sulfate	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endrin	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endrin Aldehyde	98 U	98	-	1	02/24/21 01:51	2/18/21	
Endrin Ketone	98 U	98	-	1	02/24/21 01:51	2/18/21	
Heptachlor	230	98	-	1	02/24/21 01:51	2/18/21	
Heptachlor Epoxide	98 U	98	-	1	02/24/21 01:51	2/18/21	
Methoxychlor	98 U	98	-	1	02/24/21 01:51	2/18/21	
Toxaphene	98 U	98	-	1	02/24/21 01:51	2/18/21	
alpha-BHC	470	98	-	1	02/24/21 01:51	2/18/21	
alpha-Chlordane	220	98	-	1	02/24/21 01:51	2/18/21	
beta-BHC	1000	98	-	1	02/24/21 01:51	2/18/21	
delta-BHC	98 U	98	-	1	02/24/21 01:51	2/18/21	
gamma-BHC (Lindane)	98 U	98	-	1	02/24/21 01:51	2/18/21	
gamma-Chlordane	98 U	98	-	1	02/24/21 01:51	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	74	10 - 164	02/24/21 01:51	
Tetrachloro-m-xylene	83	10 - 147	02/24/21 01:51	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	95 U	95	-	1	02/24/21 02:10	2/18/21	
4,4'-DDE	470	95	-	1	02/24/21 02:10	2/18/21	
4,4'-DDT	95 U	95	-	1	02/24/21 02:10	2/18/21	
Aldrin	95 U	95	-	1	02/24/21 02:10	2/18/21	
Dieldrin	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endosulfan I	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endosulfan II	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endosulfan Sulfate	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endrin	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endrin Aldehyde	95 U	95	-	1	02/24/21 02:10	2/18/21	
Endrin Ketone	95 U	95	-	1	02/24/21 02:10	2/18/21	
Heptachlor	650	95	-	1	02/24/21 02:10	2/18/21	
Heptachlor Epoxide	95 U	95	-	1	02/24/21 02:10	2/18/21	
Methoxychlor	95 U	95	-	1	02/24/21 02:10	2/18/21	
Toxaphene	95 U	95	-	1	02/24/21 02:10	2/18/21	
alpha-BHC	95 U	95	-	1	02/24/21 02:10	2/18/21	
alpha-Chlordane	4900	95	-	1	02/24/21 02:10	2/18/21	
beta-BHC	95 U	95	-	1	02/24/21 02:10	2/18/21	
delta-BHC	150	95	-	1	02/24/21 02:10	2/18/21	
gamma-BHC (Lindane)	95 U	95	-	1	02/24/21 02:10	2/18/21	
gamma-Chlordane	5600	95	-	1	02/24/21 02:10	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	25	10 - 164	02/24/21 02:10	
Tetrachloro-m-xylene	72	10 - 147	02/24/21 02:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: ALS SOP

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	96 U	96	-	1	02/22/21 16:40	2/18/21	
4,4'-DDE	96 U	96	-	1	02/22/21 16:40	2/18/21	
4,4'-DDT	96 U	96	-	1	02/22/21 16:40	2/18/21	
Aldrin	96 U	96	-	1	02/22/21 16:40	2/18/21	
Dieldrin	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endosulfan I	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endosulfan II	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endosulfan Sulfate	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endrin	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endrin Aldehyde	96 U	96	-	1	02/22/21 16:40	2/18/21	
Endrin Ketone	96 U	96	-	1	02/22/21 16:40	2/18/21	
Heptachlor	96 U	96	-	1	02/22/21 16:40	2/18/21	
Heptachlor Epoxide	96 U	96	-	1	02/22/21 16:40	2/18/21	
Methoxychlor	96 U	96	-	1	02/22/21 16:40	2/18/21	
Toxaphene	96 U	96	-	1	02/22/21 16:40	2/18/21	
alpha-BHC	96 U	96	-	1	02/22/21 16:40	2/18/21	
alpha-Chlordane	96 U	96	-	1	02/22/21 16:40	2/18/21	
beta-BHC	96 U	96	-	1	02/22/21 16:40	2/18/21	
delta-BHC	96 U	96	-	1	02/22/21 16:40	2/18/21	
gamma-BHC (Lindane)	96 U	96	-	1	02/22/21 16:40	2/18/21	
gamma-Chlordane	96 U	96	-	1	02/22/21 16:40	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	71	10 - 164	02/22/21 16:40	
Tetrachloro-m-xylene	76	10 - 147	02/22/21 16:40	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	
Aroclor 1221	3900 U	3900	3900	1	02/22/21 17:56	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 17:56	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	68	44 - 131	02/22/21 17:56	
Tetrachloro-m-xylene	64	33 - 139	02/22/21 17:56	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	
Aroclor 1221	3700 U	3700	3700	1	02/22/21 18:16	2/18/21	
Aroclor 1232	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	
Aroclor 1242	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	
Aroclor 1248	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	
Aroclor 1254	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	
Aroclor 1260	1900 U	1900	1900	1	02/22/21 18:16	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	83	44 - 131	02/22/21 18:16	
Tetrachloro-m-xylene	51	33 - 139	02/22/21 18:16	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	
Aroclor 1221	4000 U	4000	4000	1	02/22/21 18:35	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 18:35	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	67	44 - 131	02/22/21 18:35	
Tetrachloro-m-xylene	55	33 - 139	02/22/21 18:35	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	
Aroclor 1221	3900 U	3900	3900	1	02/22/21 18:55	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 18:55	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	67	44 - 131	02/22/21 18:55	
Tetrachloro-m-xylene	56	33 - 139	02/22/21 18:55	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: ALS SOP

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	
Aroclor 1221	3900 U	3900	3900	1	02/22/21 19:15	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 19:15	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	74	44 - 131	02/22/21 19:15	
Tetrachloro-m-xylene	74	33 - 139	02/22/21 19:15	

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dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

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	71 U	71	-	1	02/25/21 09:43	2/19/21	
2,4,5-TP	71 U	71	-	1	02/25/21 09:43	2/19/21	
2,4-D	71 U	71	-	1	02/25/21 09:43	2/19/21	
Dicamba	71 U	71	-	1	02/25/21 09:43	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	61	10 - 151	02/25/21 09:43	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

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	66 U	66	-	1	02/23/21 19:29	2/19/21	
2,4,5-TP	66 U	66	-	1	02/23/21 19:29	2/19/21	
2,4-D	66 U	66	-	1	02/23/21 19:29	2/19/21	
Dicamba	66 U	66	-	1	02/23/21 19:29	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	39	10 - 151	02/23/21 19:29	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00

Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Units: ug/Kg
Basis: As Received

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	96 U	96	-	1	02/23/21 18:29	2/19/21	
2,4,5-TP	96 U	96	-	1	02/23/21 18:29	2/19/21	
2,4-D	96 U	96	-	1	02/23/21 18:29	2/19/21	
Dicamba	96 U	96	-	1	02/23/21 18:29	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	81	10 - 151	02/23/21 18:29	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Units: ug/Kg
Basis: As Received

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	95 U	95	-	1	02/25/21 10:03	2/19/21	
2,4,5-TP	95 U	95	-	1	02/25/21 10:03	2/19/21	
2,4-D	150	95	-	1	02/25/21 10:03	2/19/21	
Dicamba	95 U	95	-	1	02/25/21 10:03	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	42	10 - 151	02/25/21 10:03	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Units: ug/Kg
Basis: As Received

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	88 U	88	-	1	02/23/21 19:09	2/19/21	
2,4,5-TP	88 U	88	-	1	02/23/21 19:09	2/19/21	
2,4-D	88 U	88	-	1	02/23/21 19:09	2/19/21	
Dicamba	88 U	88	-	1	02/23/21 19:09	2/19/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	90	10 - 151	02/23/21 19:09	



Metals

ALS Environmental—Rochester Laboratory

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INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering	Service Request: TK-LQ-ST07-02092021
Project No.: R2101263	Date Collected: 2/9/2021
Project Name:	Date Received: 2/11/2021
Matrix: NON-AQUEOUS	Units: mg/Kg
	Basis:

Sample Name: TK-LQ-ST07-02092021	Lab Code: R2101263-001
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Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	192	115	10.0	192	U	
Antimony	6010C	57.7	5.2	10.0	57.7	U	
Arsenic	6010C	9.6	6.7	10.0	9.6	U	
Barium	6010C	19.2	14.4	10.0	19.2	U	
Beryllium	6010C	2.9	0.577	10.0	2.9	U	
Cadmium	6010C	4.8	2.3	10.0	4.8	U	
Mercury	7471B	0.031	0.012	1.0	0.031	U	
Calcium	6010C	962	308	10.0	962	U	
Chromium	6010C	9.6	3.4	10.0	9.6	U	
Cobalt	6010C	48.1	4.4	10.0	48.1	U	
Copper	6010C	19.2	6.1	10.0	13.2	J	
Iron	6010C	192	125	10.0	153	J	
Lead	6010C	48.1	3.9	10.0	17.7	J	
Magnesium	6010C	962	125	10.0	962	U	
Manganese	6010C	19.2	14.4	10.0	19.2	U	
Nickel	6010C	38.5	6.4	10.0	38.5	U	
Potassium	6010C	1920	481	10.0	1920	U	
Selenium	6010C	9.6	5.2	10.0	9.6	U	
Silver	6010C	9.6	0.865	10.0	9.6	U	
Sodium	6010C	962	500	10.0	962	U	
Thallium	6010C	9.6	6.3	10.0	9.6	U	
Vanadium	6010C	48.1	6.8	10.0	48.1	U	
Zinc	6010C	19.2	13.5	10.0	38.3		

% Solids: 100.0

Comments:

METALS
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INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering	Service Request: TK-LQ-ST07-02092021
Project No.: R2101263	Date Collected: 2/9/2021
Project Name:	Date Received: 2/11/2021
Matrix: NON-AQUEOUS	Units: mg/Kg
	Basis:

Sample Name: TK-LQ-ST04-02092021	Lab Code: R2101263-002
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Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	20.0	12.0	1.0	20.0	U	
Antimony	6010C	6.0	0.540	1.0	6.0	U	
Arsenic	6010C	1.0	0.700	1.0	1.0	U	
Barium	6010C	2.0	1.5	1.0	2.0	U	
Beryllium	6010C	0.300	0.060	1.0	0.300	U	
Cadmium	6010C	0.500	0.240	1.0	0.500	U	
Mercury	7471B	0.033	0.013	1.0	0.033	U	
Calcium	6010C	100	32.0	1.0	100	U	
Chromium	6010C	1.0	0.350	1.0	1.0	U	
Cobalt	6010C	5.0	0.460	1.0	5.0	U	
Copper	6010C	2.0	0.630	1.0	2.0	U	
Iron	6010C	20.0	13.0	1.0	20.0	U	
Lead	6010C	5.0	0.400	1.0	5.0	U	
Magnesium	6010C	100	13.0	1.0	100	U	
Manganese	6010C	2.0	1.5	1.0	2.0	U	
Nickel	6010C	4.0	0.660	1.0	4.0	U	
Potassium	6010C	200	50.0	1.0	200	U	
Selenium	6010C	1.0	0.540	1.0	1.0	U	
Silver	6010C	1.0	0.090	1.0	1.0	U	
Sodium	6010C	100	52.0	1.0	100	U	
Thallium	6010C	1.0	0.650	1.0	1.0	U	
Vanadium	6010C	5.0	0.710	1.0	5.0	U	
Zinc	6010C	2.0	1.4	1.0	2.0	U	

% Solids: 100.0

Comments:

METALS
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INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering	Service Request: TK-LQ-ST07-02092021
Project No.: R2101263	Date Collected: 2/10/2021
Project Name:	Date Received: 2/11/2021
Matrix: NON-AQUEOUS	Units: mg/Kg
	Basis:

Sample Name: TL-LQ-RC01-0210	Lab Code: R2101263-003
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Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	200	120	10.0	6650		
Antimony	6010C	60.0	5.4	10.0	6.1	J	
Arsenic	6010C	10.0	7.0	10.0	7.6	J	
Barium	6010C	20.0	15.0	10.0	183		
Beryllium	6010C	3.0	0.600	10.0	3.0	U	
Cadmium	6010C	5.0	2.4	10.0	3.0	J	
Mercury	7471B	0.635	0.248	20.0	26.9		
Calcium	6010C	1000	320	10.0	1220		
Chromium	6010C	10.0	3.5	10.0	60.9		
Cobalt	6010C	50.0	4.6	10.0	50.0	U	
Copper	6010C	20.0	6.3	10.0	358		
Iron	6010C	200	130	10.0	6000		
Lead	6010C	50.0	4.0	10.0	3110		
Magnesium	6010C	1000	130	10.0	318	J	
Manganese	6010C	20.0	15.0	10.0	57.3		
Nickel	6010C	40.0	6.6	10.0	18.2	J	
Potassium	6010C	2000	500	10.0	2000	U	
Selenium	6010C	10.0	5.4	10.0	10.0	U	
Silver	6010C	10.0	0.900	10.0	10.0	U	
Sodium	6010C	1000	520	10.0	1000	U	
Thallium	6010C	10.0	6.5	10.0	10.0	U	
Vanadium	6010C	50.0	7.1	10.0	50.0	U	
Zinc	6010C	20.0	14.0	10.0	813		

% Solids: 100.0

Comments:

METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering	Service Request: TK-LQ-ST07-02092021
Project No.: R2101263	Date Collected: 2/10/2021
Project Name:	Date Received: 2/11/2021
Matrix: NON-AQUEOUS	Units: mg/Kg
	Basis:

Sample Name: TK-LQ-RC03-02100	Lab Code: R2101263-004
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Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	18.2	10.9	1.0	18.2	U	
Antimony	6010C	5.5	0.491	1.0	5.5	U	
Arsenic	6010C	0.909	0.636	1.0	0.909	U	
Barium	6010C	1.8	1.4	1.0	1.8	U	
Beryllium	6010C	0.273	0.055	1.0	0.273	U	
Cadmium	6010C	0.455	0.218	1.0	0.455	U	
Mercury	7471B	0.032	0.013	1.0	0.042		
Calcium	6010C	90.9	29.1	1.0	90.9	U	
Chromium	6010C	0.909	0.318	1.0	0.909	U	
Cobalt	6010C	4.6	0.418	1.0	4.6	U	
Copper	6010C	1.8	0.573	1.0	1.8	U	
Iron	6010C	18.2	11.8	1.0	17.6	J	
Lead	6010C	4.6	0.364	1.0	0.564	J	
Magnesium	6010C	90.9	11.8	1.0	90.9	U	
Manganese	6010C	1.8	1.4	1.0	1.8	U	
Nickel	6010C	3.6	0.600	1.0	3.6	U	
Potassium	6010C	182	45.5	1.0	182	U	
Selenium	6010C	0.909	0.491	1.0	0.909	U	
Silver	6010C	0.909	0.082	1.0	0.909	U	
Sodium	6010C	90.9	47.3	1.0	90.9	U	
Thallium	6010C	0.909	0.591	1.0	0.909	U	
Vanadium	6010C	4.6	0.645	1.0	4.6	U	
Zinc	6010C	1.8	1.3	1.0	23.5		

% Solids: 100.0

Comments:

METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: Inventum Engineering	Service Request: TK-LQ-ST07-02092021
Project No.: R2101263	Date Collected: 2/10/2021
Project Name:	Date Received: 2/11/2021
Matrix: NON-AQUEOUS	Units: mg/Kg
	Basis:

Sample Name: TK-SD-RC04-0210	Lab Code: R2101263-005
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Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Aluminum	6010C	19.6	11.8	1.0	73.3		
Antimony	6010C	5.9	0.529	1.0	5.9	U	
Arsenic	6010C	0.980	0.686	1.0	3.1		
Barium	6010C	2.0	1.5	1.0	1.5	J	
Beryllium	6010C	0.294	0.059	1.0	0.294	U	
Cadmium	6010C	0.490	0.235	1.0	0.490	U	
Mercury	7471B	0.033	0.013	1.0	0.308		
Calcium	6010C	98.0	31.4	1.0	52.1	J	
Chromium	6010C	0.980	0.343	1.0	0.578	J	
Cobalt	6010C	4.9	0.451	1.0	4.9	U	
Copper	6010C	2.0	0.618	1.0	1.7	J	
Iron	6010C	19.6	12.7	1.0	1320		
Lead	6010C	4.9	0.392	1.0	4.8	J	
Magnesium	6010C	98.0	12.7	1.0	17.3	J	
Manganese	6010C	2.0	1.5	1.0	4.7		
Nickel	6010C	3.9	0.647	1.0	1.1	J	
Potassium	6010C	196	49.0	1.0	1410		
Selenium	6010C	0.980	0.529	1.0	0.569	J	
Silver	6010C	0.980	0.088	1.0	0.980	U	
Sodium	6010C	980	510	10.0	103000		
Thallium	6010C	0.980	0.637	1.0	0.980	U	
Vanadium	6010C	4.9	0.696	1.0	0.902	J	
Zinc	6010C	2.0	1.4	1.0	6.9		

% Solids: 100.0

Comments:



General Chemistry

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid
Sample Name: TK-LQ-ST07-02092021
Lab Code: R2101263-001

Service Request: R2101263
Date Collected: 02/09/21 12:00
Date Received: 02/11/21 14:00
Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	4.2 J	mg/Kg	5.0	3.1	1	02/23/21 16:33	02/22/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid
Sample Name: TK-LQ-ST04-02092021
Lab Code: R2101263-002

Service Request: R2101263
Date Collected: 02/09/21 13:50
Date Received: 02/11/21 14:00
Basis: As Received

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 16:35	02/22/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid
Sample Name: TL-LQ-RC01-0210
Lab Code: R2101263-003

Service Request: R2101263
Date Collected: 02/10/21 09:30
Date Received: 02/11/21 14:00
Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	7.1	mg/Kg	5.0	3.1	1	02/23/21 16:36	02/22/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Sample Name: TK-LQ-RC03-02100
Lab Code: R2101263-004

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00

Basis: As Received

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 16:38	02/22/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid
Sample Name: TK-SD-RC04-0210
Lab Code: R2101263-005

Service Request: R2101263
Date Collected: 02/10/21 10:50
Date Received: 02/11/21 14:00
Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	350.1M	52.3	mg/Kg	5.0	3.1	1	02/23/21 16:39	02/22/21	



QC Summary Forms

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Volatile Organic Compounds by GC/MS

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

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

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		31-154	63-138	66-138
TK-LQ-ST07-02092021	R2101263-001	101	102	103
TK-LQ-ST04-02092021	R2101263-002	103	100	104
TL-LQ-RC01-0210	R2101263-003	102	100	103
TK-LQ-RC03-02100	R2101263-004	100	98	103
TK-SD-RC04-0210	R2101263-005	96	98	103
Method Blank	RQ2101850-04	111	99	105
Lab Control Sample	RQ2101850-03	109	99	103

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101850-04

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	10 U	250	10	50	02/23/21 12:57	
1,1,2,2-Tetrachloroethane	10 U	250	10	50	02/23/21 12:57	
1,1,2-Trichloroethane	10 U	250	10	50	02/23/21 12:57	
1,1,2-Trichloro-1,2,2-trifluoroethane	10 U	250	10	50	02/23/21 12:57	
1,1-Dichloroethane (1,1-DCA)	10 U	250	10	50	02/23/21 12:57	
1,1-Dichloroethene (1,1-DCE)	10 U	250	10	50	02/23/21 12:57	
1,2,3-Trichlorobenzene	13 U	250	13	50	02/23/21 12:57	
1,2,4-Trichlorobenzene	17 U	250	17	50	02/23/21 12:57	
1,2-Dibromo-3-chloropropane (DBCP)	23 U	250	23	50	02/23/21 12:57	
1,2-Dibromoethane	10 U	250	10	50	02/23/21 12:57	
1,2-Dichlorobenzene	10 U	250	10	50	02/23/21 12:57	
1,2-Dichloroethane	10 U	250	10	50	02/23/21 12:57	
1,2-Dichloropropane	10 U	250	10	50	02/23/21 12:57	
1,3-Dichlorobenzene	10 U	250	10	50	02/23/21 12:57	
1,4-Dichlorobenzene	10 U	250	10	50	02/23/21 12:57	
1,4-Dioxane	650 U	5000	650	50	02/23/21 12:57	
2-Butanone (MEK)	170 J	500	39	50	02/23/21 12:57	
2-Hexanone	10 U	500	10	50	02/23/21 12:57	
4-Methyl-2-pentanone	10 U	500	10	50	02/23/21 12:57	
Acetone	110 U	500	110	50	02/23/21 12:57	
Benzene	10 U	250	10	50	02/23/21 12:57	
Bromochloromethane	10 U	250	10	50	02/23/21 12:57	
Bromodichloromethane	10 U	250	10	50	02/23/21 12:57	
Bromoform	13 U	250	13	50	02/23/21 12:57	
Bromomethane	35 U	250	35	50	02/23/21 12:57	
Carbon Disulfide	21 U	500	21	50	02/23/21 12:57	
Carbon Tetrachloride	17 U	250	17	50	02/23/21 12:57	
Chlorobenzene	10 U	250	10	50	02/23/21 12:57	
Chloroethane	12 U	250	12	50	02/23/21 12:57	
Chloroform	12 U	250	12	50	02/23/21 12:57	
Chloromethane	33 J	250	14	50	02/23/21 12:57	
Cyclohexane	13 U	500	13	50	02/23/21 12:57	
Dibromochloromethane	10 U	250	10	50	02/23/21 12:57	
Dichlorodifluoromethane (CFC 12)	11 U	250	11	50	02/23/21 12:57	
Dichloromethane	33 U	250	33	50	02/23/21 12:57	
Ethylbenzene	10 U	250	10	50	02/23/21 12:57	
Isopropylbenzene (Cumene)	10 U	250	10	50	02/23/21 12:57	
Methyl Acetate	40 J	500	17	50	02/23/21 12:57	
Methyl tert-Butyl Ether	10 U	250	10	50	02/23/21 12:57	
Methylcyclohexane	10 U	500	10	50	02/23/21 12:57	
Styrene	10 U	250	10	50	02/23/21 12:57	
Tetrachloroethene (PCE)	11 U	250	11	50	02/23/21 12:57	
Toluene	10 U	250	10	50	02/23/21 12:57	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101850-04

Units: ug/Kg
Basis: As Received

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 8260C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	10 U	250	10	50	02/23/21 12:57	
Trichlorofluoromethane (CFC 11)	12 U	250	12	50	02/23/21 12:57	
Vinyl Chloride	10 U	250	10	50	02/23/21 12:57	
cis-1,2-Dichloroethene	12 U	250	12	50	02/23/21 12:57	
cis-1,3-Dichloropropene	10 U	250	10	50	02/23/21 12:57	
m,p-Xylenes	10 U	250	10	50	02/23/21 12:57	
o-Xylene	10 U	250	10	50	02/23/21 12:57	
trans-1,2-Dichloroethene	10 U	250	10	50	02/23/21 12:57	
trans-1,3-Dichloropropene	12 U	250	12	50	02/23/21 12:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	31 - 154	02/23/21 12:57	
Dibromofluoromethane	99	63 - 138	02/23/21 12:57	
Toluene-d8	105	66 - 138	02/23/21 12:57	

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/23/21

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

Units:ug/Kg
Basis:As Received

Lab Control Sample
RQ2101850-03

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	19.9	20.0	100	78-121
1,1,2-Trichloroethane	8260C	22.0	20.0	110	84-117
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	18.5	20.0	92	54-121
1,1-Dichloroethane (1,1-DCA)	8260C	19.9	20.0	100	76-123
1,1-Dichloroethene (1,1-DCE)	8260C	22.5	20.0	112	65-115
1,2,3-Trichlorobenzene	8260C	18.3	20.0	92	60-128
1,2,4-Trichlorobenzene	8260C	18.3	20.0	92	62-130
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.6	20.0	88	54-135
1,2-Dibromoethane	8260C	19.7	20.0	99	77-117
1,2-Dichlorobenzene	8260C	19.4	20.0	97	75-116
1,2-Dichloroethane	8260C	20.1	20.0	101	74-116
1,2-Dichloropropane	8260C	19.5	20.0	98	79-112
1,3-Dichlorobenzene	8260C	19.5	20.0	98	72-118
1,4-Dichlorobenzene	8260C	19.2	20.0	96	72-117
1,4-Dioxane	8260C	417	400	104	59-147
2-Butanone (MEK)	8260C	24.5	20.0	122	67-129
2-Hexanone	8260C	22.9	20.0	115	68-118
4-Methyl-2-pentanone	8260C	22.6	20.0	113	64-123
Acetone	8260C	21.9	20.0	110	32-154
Benzene	8260C	19.7	20.0	98	77-114
Bromochloromethane	8260C	20.4	20.0	102	78-117
Bromodichloromethane	8260C	19.4	20.0	97	72-118
Bromoform	8260C	18.9	20.0	94	55-134
Bromomethane	8260C	5.53	20.0	28	10-150
Carbon Disulfide	8260C	20.2	20.0	101	44-139
Carbon Tetrachloride	8260C	17.2	20.0	86	51-123
Chlorobenzene	8260C	19.7	20.0	98	79-115
Chloroethane	8260C	6.11	20.0	31	10-140
Chloroform	8260C	21.1	20.0	106	76-115
Chloromethane	8260C	24.2	20.0	121	10-131
Cyclohexane	8260C	18.4	20.0	92	67-122
Dibromochloromethane	8260C	20.1	20.0	100	68-121

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/23/21

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

Units:ug/Kg
Basis:As Received

Lab Control Sample
RQ2101850-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	21.6	20.0	108	51-144
Dichloromethane	8260C	20.4	20.0	102	72-118
Ethylbenzene	8260C	18.8	20.0	94	64-118
Isopropylbenzene (Cumene)	8260C	19.0	20.0	95	60-123
Methyl Acetate	8260C	20.8	20.0	104	31-122
Methyl tert-Butyl Ether	8260C	21.6	20.0	108	76-118
Methylcyclohexane	8260C	21.0	20.0	105	70-124
Styrene	8260C	20.1	20.0	101	74-117
Tetrachloroethene (PCE)	8260C	18.3	20.0	92	58-124
Toluene	8260C	19.8	20.0	99	72-116
Trichloroethene (TCE)	8260C	19.3	20.0	97	69-118
Trichlorofluoromethane (CFC 11)	8260C	15.9	20.0	79	52-127
Vinyl Chloride	8260C	17.2	20.0	86	59-153
cis-1,2-Dichloroethene	8260C	20.6	20.0	103	79-113
cis-1,3-Dichloropropene	8260C	19.6	20.0	98	66-117
m,p-Xylenes	8260C	40.1	40.0	100	68-118
o-Xylene	8260C	19.9	20.0	100	71-116
trans-1,2-Dichloroethene	8260C	21.4	20.0	107	73-114
trans-1,3-Dichloropropene	8260C	20.6	20.0	103	57-135



Semivolatile Organic Compounds by GC/MS

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3580A

Sample Name	Lab Code	2,4,6-Tribromophenol	2-Fluorobiphenyl	2-Fluorophenol
		10-180	49-157	59-113
TK-LQ-ST07-02092021	R2101263-001	81	90	81
TK-LQ-ST04-02092021	R2101263-002	67	102	98
TL-LQ-RC01-0210	R2101263-003	69	77	73
TK-LQ-RC03-02100	R2101263-004	77	90	87
TK-SD-RC04-0210	R2101263-005	0*	112	0*
Method Blank	RQ2101630-01	82	83	81
Lab Control Sample	RQ2101630-02	76	78	73
Duplicate Lab Control Sample	RQ2101630-03	76	79	74

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3580A

Sample Name	Lab Code	Nitrobenzene-d5	Phenol-d6	Terphenyl-d14
		66-143	35-125	72-172
TK-LQ-ST07-02092021	R2101263-001	119	82	98
TK-LQ-ST04-02092021	R2101263-002	605*	98	86
TL-LQ-RC01-0210	R2101263-003	77	66	91
TK-LQ-RC03-02100	R2101263-004	95	87	71*
TK-SD-RC04-0210	R2101263-005	75	6*	124
Method Blank	RQ2101630-01	82	73	94
Lab Control Sample	RQ2101630-02	77	67	77
Duplicate Lab Control Sample	RQ2101630-03	76	70	77

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101630-01

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
2,3,4,6-Tetrachlorophenol	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
2,4,5-Trichlorophenol	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
2,4,6-Trichlorophenol	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
2,4-Dichlorophenol	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
2,4-Dimethylphenol	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
2,4-Dinitrophenol	200000 U	500000	200000	1	02/18/21 23:33	2/18/21	
2,4-Dinitrotoluene	24000 U	100000	24000	1	02/18/21 23:33	2/18/21	
2,6-Dinitrotoluene	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
2-Chloronaphthalene	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
2-Chlorophenol	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
2-Methylnaphthalene	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
2-Methylphenol	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
2-Nitroaniline	14000 U	500000	14000	1	02/18/21 23:33	2/18/21	
2-Nitrophenol	15000 U	100000	15000	1	02/18/21 23:33	2/18/21	
3,3'-Dichlorobenzidine	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
3- and 4-Methylphenol Coelution	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
3-Nitroaniline	25000 U	500000	25000	1	02/18/21 23:33	2/18/21	
4,6-Dinitro-2-methylphenol	200000 U	500000	200000	1	02/18/21 23:33	2/18/21	
4-Bromophenyl Phenyl Ether	17000 U	100000	17000	1	02/18/21 23:33	2/18/21	
4-Chloro-3-methylphenol	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
4-Chloroaniline	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
4-Chlorophenyl Phenyl Ether	15000 U	100000	15000	1	02/18/21 23:33	2/18/21	
4-Nitroaniline	27000 U	500000	27000	1	02/18/21 23:33	2/18/21	
4-Nitrophenol	64000 U	500000	64000	1	02/18/21 23:33	2/18/21	
Acenaphthene	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Acenaphthylene	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Acetophenone	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Anthracene	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Atrazine	21000 U	100000	21000	1	02/18/21 23:33	2/18/21	
Benz(a)anthracene	16000 U	100000	16000	1	02/18/21 23:33	2/18/21	
Benzaldehyde	37000 U	500000	37000	1	02/18/21 23:33	2/18/21	
Benzo(a)pyrene	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
Benzo(b)fluoranthene	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
Benzo(g,h,i)perylene	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
Benzo(k)fluoranthene	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Biphenyl	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
2,2'-Oxybis(1-chloropropane)	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Bis(2-chloroethoxy)methane	19000 U	100000	19000	1	02/18/21 23:33	2/18/21	
Bis(2-chloroethyl) Ether	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Bis(2-ethylhexyl) Phthalate	78000 U	100000	78000	1	02/18/21 23:33	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101630-01

Units: ug/Kg
Basis: As Received

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Butyl Benzyl Phthalate	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Caprolactam	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
Carbazole	16000 U	100000	16000	1	02/18/21 23:33	2/18/21	
Chrysene	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
Di-n-butyl Phthalate	17000 U	100000	17000	1	02/18/21 23:33	2/18/21	
Di-n-octyl Phthalate	33000 U	100000	33000	1	02/18/21 23:33	2/18/21	
Dibenz(a,h)anthracene	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
Dibenzofuran	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Diethyl Phthalate	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
Dimethyl Phthalate	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Fluoranthene	15000 U	100000	15000	1	02/18/21 23:33	2/18/21	
Fluorene	13000 U	100000	13000	1	02/18/21 23:33	2/18/21	
Hexachlorobenzene	16000 U	100000	16000	1	02/18/21 23:33	2/18/21	
Hexachlorobutadiene	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
Hexachlorocyclopentadiene	22000 U	100000	22000	1	02/18/21 23:33	2/18/21	
Hexachloroethane	11000 U	100000	11000	1	02/18/21 23:33	2/18/21	
Indeno(1,2,3-cd)pyrene	18000 U	100000	18000	1	02/18/21 23:33	2/18/21	
Isophorone	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
N-Nitrosodi-n-propylamine	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
N-Nitrosodiphenylamine	27000 U	100000	27000	1	02/18/21 23:33	2/18/21	
Naphthalene	12000 U	100000	12000	1	02/18/21 23:33	2/18/21	
Nitrobenzene	15000 U	100000	15000	1	02/18/21 23:33	2/18/21	
Pentachlorophenol (PCP)	97000 U	500000	97000	1	02/18/21 23:33	2/18/21	
Phenanthrene	14000 U	100000	14000	1	02/18/21 23:33	2/18/21	
Phenol	10000 U	100000	10000	1	02/18/21 23:33	2/18/21	
Pyrene	15000 U	100000	15000	1	02/18/21 23:33	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	10 - 180	02/18/21 23:33	
2-Fluorobiphenyl	83	49 - 157	02/18/21 23:33	
2-Fluorophenol	81	59 - 113	02/18/21 23:33	
Nitrobenzene-d5	82	66 - 143	02/18/21 23:33	
Phenol-d6	73	35 - 125	02/18/21 23:33	
Terphenyl-d14	94	72 - 172	02/18/21 23:33	

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/19/21

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

Units:ug/Kg
Basis:As Received

Analyte Name	Lab Control Sample				Duplicate Lab Control Sample					
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	8270D	150000	200000	75	152000	200000	76	50-150	1	30
2,3,4,6-Tetrachlorophenol	8270D	168000	200000	84	168000	200000	84	50-150	<1	30
2,4,5-Trichlorophenol	8270D	148000	200000	74	153000	200000	76	50-150	3	30
2,4,6-Trichlorophenol	8270D	146000	200000	73	145000	200000	72	50-150	<1	30
2,4-Dichlorophenol	8270D	140000	200000	70	144000	200000	72	50-150	3	30
2,4-Dimethylphenol	8270D	149000	200000	75	146000	200000	73	50-150	2	30
2,4-Dinitrophenol	8270D	200000 U	200000	0 *	200000 U	200000	0 *	30-178	NC	30
2,4-Dinitrotoluene	8270D	147000	200000	74	154000	200000	77	50-161	4	30
2,6-Dinitrotoluene	8270D	178000	200000	89	182000	200000	91	50-150	2	30
2-Chloronaphthalene	8270D	160000	200000	80	160000	200000	80	50-150	<1	30
2-Chlorophenol	8270D	141000	200000	70	143000	200000	71	50-150	1	30
2-Methylnaphthalene	8270D	157000	200000	78	156000	200000	78	50-150	<1	30
2-Methylphenol	8270D	140000	200000	70	152000	200000	76	50-150	8	30
2-Nitroaniline	8270D	164000 J	200000	82	167000 J	200000	83	50-150	2	30
2-Nitrophenol	8270D	155000	200000	77	157000	200000	79	50-150	1	30
3,3'-Dichlorobenzidine	8270D	138000	200000	69	136000	200000	68	50-150	2	30
3- and 4-Methylphenol Coelution	8270D	140000	200000	70	146000	200000	73	50-150	5	30
3-Nitroaniline	8270D	129000 J	200000	64	130000 J	200000	65	50-150	<1	30
4,6-Dinitro-2-methylphenol	8270D	200000 U	200000	0 *	200000 U	200000	0 *	15-180	NC	30
4-Bromophenyl Phenyl Ether	8270D	159000	200000	79	163000	200000	82	50-150	3	30
4-Chloro-3-methylphenol	8270D	138000	200000	69	144000	200000	72	39-168	4	30
4-Chloroaniline	8270D	88800 J	200000	44	93400 J	200000	47	10-86	5	30
4-Chlorophenyl Phenyl Ether	8270D	146000	200000	73	151000	200000	75	50-150	3	30
4-Nitroaniline	8270D	143000 J	200000	71	151000 J	200000	76	50-150	6	30
4-Nitrophenol	8270D	111000 J	200000	55	112000 J	200000	56	28-164	2	30
Acenaphthene	8270D	155000	200000	77	154000	200000	77	50-150	<1	30
Acenaphthylene	8270D	168000	200000	84	173000	200000	87	50-150	3	30
Acetophenone	8270D	272000	400000	68	277000	400000	69	50-150	2	30
Anthracene	8270D	161000	200000	80	162000	200000	81	50-150	<1	30
Atrazine	8270D	187000	200000	93	177000	200000	88	50-150	5	30
Benz(a)anthracene	8270D	145000	200000	73	145000	200000	72	50-150	<1	30
Benzaldehyde	8270D	141000 J	200000	70	147000 J	200000	73	50-150	4	30
Benzo(a)pyrene	8270D	182000	200000	91	182000	200000	91	50-150	<1	30

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/19/21

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

Units:ug/Kg
Basis:As Received

Analyte Name	Lab Control Sample RQ2101630-02				Duplicate Lab Control Sample RQ2101630-03					
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Benzo(b)fluoranthene	8270D	141000	200000	70	142000	200000	71	50-150	<1	30
Benzo(g,h,i)perylene	8270D	167000	200000	84	166000	200000	83	50-150	<1	30
Benzo(k)fluoranthene	8270D	157000	200000	78	160000	200000	80	50-150	2	30
Biphenyl	8270D	152000	200000	76	151000	200000	75	50-150	<1	30
2,2'-Oxybis(1-chloropropane)	8270D	150000	200000	75	154000	200000	77	50-150	3	30
Bis(2-chloroethoxy)methane	8270D	157000	200000	78	153000	200000	77	50-150	2	30
Bis(2-chloroethyl) Ether	8270D	155000	200000	78	154000	200000	77	50-150	<1	30
Bis(2-ethylhexyl) Phthalate	8270D	159000	200000	79	156000	200000	78	50-150	2	30
Butyl Benzyl Phthalate	8270D	147000	200000	73	143000	200000	72	50-150	2	30
Caprolactam	8270D	135000	200000	67	134000	200000	67	50-150	<1	30
Carbazole	8270D	176000	200000	88	177000	200000	89	50-150	<1	30
Chrysene	8270D	155000	200000	78	156000	200000	78	50-150	<1	30
Di-n-butyl Phthalate	8270D	186000	200000	93	185000	200000	92	50-150	<1	30
Di-n-octyl Phthalate	8270D	162000	200000	81	158000	200000	79	50-150	2	30
Dibenz(a,h)anthracene	8270D	163000	200000	81	163000	200000	82	50-150	<1	30
Dibenzofuran	8270D	160000	200000	80	163000	200000	82	50-150	2	30
Diethyl Phthalate	8270D	137000	200000	68	139000	200000	69	50-150	1	30
Dimethyl Phthalate	8270D	158000	200000	79	162000	200000	81	50-150	2	30
Fluoranthene	8270D	167000	200000	83	168000	200000	84	50-150	<1	30
Fluorene	8270D	157000	200000	79	161000	200000	81	50-150	3	30
Hexachlorobenzene	8270D	157000	200000	79	159000	200000	79	50-150	1	30
Hexachlorobutadiene	8270D	161000	200000	80	164000	200000	82	50-150	2	30
Hexachlorocyclopentadiene	8270D	156000	200000	78	152000	200000	76	50-150	2	30
Hexachloroethane	8270D	143000	200000	71	150000	200000	75	50-150	5	30
Indeno(1,2,3-cd)pyrene	8270D	152000	200000	76	153000	200000	77	50-150	<1	30
Isophorone	8270D	134000	200000	67	132000	200000	66	50-150	1	30
N-Nitrosodi-n-propylamine	8270D	149000	200000	74	151000	200000	75	47-145	1	30
N-Nitrosodiphenylamine	8270D	195000	200000	98	196000	200000	98	50-150	<1	30
Naphthalene	8270D	171000	200000	85	171000	200000	85	50-150	<1	30
Nitrobenzene	8270D	152000	200000	76	153000	200000	77	50-150	<1	30
Pentachlorophenol (PCP)	8270D	161000 J	200000	81	162000 J	200000	81	10-164	<1	30
Phenanthrene	8270D	155000	200000	78	155000	200000	77	50-150	<1	30
Phenol	8270D	145000	200000	73	150000	200000	75	50-150	3	30

ALS Group USA, Corp.

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/19/21

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

Units:ug/Kg**Basis:**As Received

Analyte Name	Analytical Method	Result	Lab Control Sample		Duplicate Lab Control Sample		% Rec	% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec	Result	Spike Amount	% Rec			
Pyrene	8270D	162000	200000	81	161000	200000	80	50-150	<1	30



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3580A

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		10-164	10-147
TK-SD-RC04-0210	R2101263-005	71	76
Method Blank	RQ2101673-01	97	109
Lab Control Sample	RQ2101673-02	97	106
Duplicate Lab Control Sample	RQ2101673-03	96	103
TK-LQ-ST07-02092021	R2101263-001	89	78
TK-LQ-ST04-02092021	R2101263-002	84	72
TL-LQ-RC01-0210	R2101263-003	74	83
TK-LQ-RC03-02100	R2101263-004	25	72
Method Blank	RQ2101634-01	97	109
Method Blank	RQ2101634-01	91	102
Lab Control Sample	RQ2101634-02	97	106
Lab Control Sample	RQ2101634-02	91	99
Duplicate Lab Control Sample	RQ2101634-03	96	103
Duplicate Lab Control Sample	RQ2101634-03	89	96

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101634-01

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	100 U	100	-	1	02/24/21 00:54	2/18/21	
4,4'-DDE	100 U	100	-	1	02/24/21 00:54	2/18/21	
4,4'-DDT	100 U	100	-	1	02/24/21 00:54	2/18/21	
Aldrin	100 U	100	-	1	02/24/21 00:54	2/18/21	
Dieldrin	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endosulfan I	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endosulfan II	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endosulfan Sulfate	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endrin	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endrin Aldehyde	100 U	100	-	1	02/24/21 00:54	2/18/21	
Endrin Ketone	100 U	100	-	1	02/24/21 00:54	2/18/21	
Heptachlor	100 U	100	-	1	02/24/21 00:54	2/18/21	
Heptachlor Epoxide	100 U	100	-	1	02/24/21 00:54	2/18/21	
Methoxychlor	100 U	100	-	1	02/24/21 00:54	2/18/21	
Toxaphene	100 U	100	-	1	02/24/21 00:54	2/18/21	
alpha-BHC	100 U	100	-	1	02/24/21 00:54	2/18/21	
alpha-Chlordane	100 U	100	-	1	02/24/21 00:54	2/18/21	
beta-BHC	100 U	100	-	1	02/24/21 00:54	2/18/21	
delta-BHC	100 U	100	-	1	02/24/21 00:54	2/18/21	
gamma-BHC (Lindane)	100 U	100	-	1	02/24/21 00:54	2/18/21	
gamma-Chlordane	100 U	100	-	1	02/24/21 00:54	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101634-01

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	91	10 - 164	02/24/21 00:54	
Tetrachloro-m-xylene	102	10 - 147	02/24/21 00:54	

ALS Group USA, Corp.
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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101634-01

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	100 U	100	-	1	02/22/21 14:27	2/18/21	
4,4'-DDE	100 U	100	-	1	02/22/21 14:27	2/18/21	
4,4'-DDT	100 U	100	-	1	02/22/21 14:27	2/18/21	
Aldrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Dieldrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan I	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan II	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan Sulfate	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin Aldehyde	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin Ketone	100 U	100	-	1	02/22/21 14:27	2/18/21	
Heptachlor	100 U	100	-	1	02/22/21 14:27	2/18/21	
Heptachlor Epoxide	100 U	100	-	1	02/22/21 14:27	2/18/21	
Methoxychlor	100 U	100	-	1	02/22/21 14:27	2/18/21	
Toxaphene	100 U	100	-	1	02/22/21 14:27	2/18/21	
alpha-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
alpha-Chlordane	100 U	100	-	1	02/22/21 14:27	2/18/21	
beta-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
delta-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
gamma-BHC (Lindane)	100 U	100	-	1	02/22/21 14:27	2/18/21	
gamma-Chlordane	100 U	100	-	1	02/22/21 14:27	2/18/21	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101634-01

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3580A

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	97	10 - 164	02/22/21 14:27	
Tetrachloro-m-xylene	109	10 - 147	02/22/21 14:27	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101673-01

Units: ug/Kg
Basis: As Received

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: ALS SOP

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	100 U	100	-	1	02/22/21 14:27	2/18/21	
4,4'-DDE	100 U	100	-	1	02/22/21 14:27	2/18/21	
4,4'-DDT	100 U	100	-	1	02/22/21 14:27	2/18/21	
Aldrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Dieldrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan I	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan II	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endosulfan Sulfate	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin Aldehyde	100 U	100	-	1	02/22/21 14:27	2/18/21	
Endrin Ketone	100 U	100	-	1	02/22/21 14:27	2/18/21	
Heptachlor	100 U	100	-	1	02/22/21 14:27	2/18/21	
Heptachlor Epoxide	100 U	100	-	1	02/22/21 14:27	2/18/21	
Methoxychlor	100 U	100	-	1	02/22/21 14:27	2/18/21	
Toxaphene	100 U	100	-	1	02/22/21 14:27	2/18/21	
alpha-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
alpha-Chlordane	100 U	100	-	1	02/22/21 14:27	2/18/21	
beta-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
delta-BHC	100 U	100	-	1	02/22/21 14:27	2/18/21	
gamma-BHC (Lindane)	100 U	100	-	1	02/22/21 14:27	2/18/21	
gamma-Chlordane	100 U	100	-	1	02/22/21 14:27	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	97	10 - 164	02/22/21 14:27	
Tetrachloro-m-xylene	109	10 - 147	02/22/21 14:27	

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/22/21

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/Kg
Basis:As Received

Lab Control Sample RQ2101634-02					Duplicate Lab Control Sample RQ2101634-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
4,4'-DDD	8081B	2200	2000	110	2160	2000	108	42-159	2	30
4,4'-DDE	8081B	2220	2000	111	2170	2000	109	47-147	2	30
4,4'-DDT	8081B	2210	2000	110	2180	2000	109	41-149	1	30
Aldrin	8081B	2180	2000	109	2130	2000	107	22-137	2	30
Dieldrin	8081B	2180	2000	109	2130	2000	107	52-144	2	30
Endosulfan I	8081B	2180	2000	109	2140	2000	107	52-136	2	30
Endosulfan II	8081B	2210	2000	111	2190	2000	109	57-138	1	30
Endosulfan Sulfate	8081B	2240	2000	112	2220	2000	111	34-156	<1	30
Endrin	8081B	2200	2000	110	2150	2000	108	56-143	2	30
Endrin Aldehyde	8081B	2050	2000	103	2050	2000	103	10-166	<1	30
Endrin Ketone	8081B	2140	2000	107	2090	2000	105	59-143	2	30
Heptachlor	8081B	2210	2000	111	2160	2000	108	32-141	2	30
Heptachlor Epoxide	8081B	2140	2000	107	2090	2000	105	51-143	2	30
Methoxychlor	8081B	2090	2000	104	2090	2000	105	56-149	<1	30
alpha-BHC	8081B	2190	2000	110	2140	2000	107	36-151	3	30
alpha-Chlordane	8081B	2140	2000	107	2100	2000	105	50-139	2	30
beta-BHC	8081B	2080	2000	104	2050	2000	102	55-149	2	30
delta-BHC	8081B	2260	2000	113	2210	2000	110	29-159	2	30
gamma-BHC (Lindane)	8081B	2180	2000	109	2130	2000	106	41-149	3	30

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/22/21

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/Kg
Basis:As Received

Lab Control Sample RQ2101673-02					Duplicate Lab Control Sample RQ2101673-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
4,4'-DDD	8081B	2200	2000	110	2160	2000	108	42-159	2	30
4,4'-DDE	8081B	2220	2000	111	2170	2000	109	47-147	2	30
4,4'-DDT	8081B	2210	2000	110	2180	2000	109	41-149	1	30
Aldrin	8081B	2180	2000	109	2130	2000	107	22-137	2	30
Dieldrin	8081B	2180	2000	109	2130	2000	107	52-144	2	30
Endosulfan I	8081B	2180	2000	109	2140	2000	107	52-136	2	30
Endosulfan II	8081B	2210	2000	111	2190	2000	109	57-138	1	30
Endosulfan Sulfate	8081B	2240	2000	112	2220	2000	111	34-156	<1	30
Endrin	8081B	2200	2000	110	2150	2000	108	56-143	2	30
Endrin Aldehyde	8081B	2050	2000	103	2050	2000	103	10-166	<1	30
Endrin Ketone	8081B	2140	2000	107	2090	2000	105	59-143	2	30
Heptachlor	8081B	2210	2000	111	2160	2000	108	32-141	2	30
Heptachlor Epoxide	8081B	2140	2000	107	2090	2000	105	51-143	2	30
Methoxychlor	8081B	2090	2000	104	2090	2000	105	56-149	<1	30
alpha-BHC	8081B	2190	2000	110	2140	2000	107	36-151	3	30
alpha-Chlordane	8081B	2140	2000	107	2100	2000	105	50-139	2	30
beta-BHC	8081B	2080	2000	104	2050	2000	102	55-149	2	30
delta-BHC	8081B	2260	2000	113	2210	2000	110	29-159	2	30
gamma-BHC (Lindane)	8081B	2180	2000	109	2130	2000	106	41-149	3	30

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Extraction Method: EPA 3580A

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		44-131	33-139
TK-SD-RC04-0210	R2101263-005	74	74
Method Blank	RQ2101673-01	113	105
Lab Control Sample	RQ2101673-02	114	106
Duplicate Lab Control Sample	RQ2101673-03	112	105
TK-LQ-ST07-02092021	R2101263-001	68	64
TK-LQ-ST04-02092021	R2101263-002	83	51
TL-LQ-RC01-0210	R2101263-003	67	55
TK-LQ-RC03-02100	R2101263-004	67	56
Method Blank	RQ2101634-01	113	105
Lab Control Sample	RQ2101634-02	114	106
Duplicate Lab Control Sample	RQ2101634-03	112	105

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101634-01

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3580A

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1221	4000 U	4000	4000	1	02/22/21 16:57	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	113	44 - 131	02/22/21 16:57	
Tetrachloro-m-xylene	105	33 - 139	02/22/21 16:57	

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101673-01

Units: ug/Kg
Basis: As Received

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: ALS SOP

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1221	4000 U	4000	4000	1	02/22/21 16:57	2/18/21	
Aroclor 1232	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1242	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1248	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1254	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	
Aroclor 1260	2000 U	2000	2000	1	02/22/21 16:57	2/18/21	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	113	44 - 131	02/22/21 16:57	
Tetrachloro-m-xylene	105	33 - 139	02/22/21 16:57	

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/22/21

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

Units:ug/Kg
Basis:As Received

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ2101634-02			RQ2101634-03				
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aroclor 1016	8082A	21100	20000	106	20900	20000	104	40-140	1	30
Aroclor 1260	8082A	22500	20000	112	21500	20000	107	53-127	4	30

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/22/21

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

Units:ug/Kg
Basis:As Received

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ2101673-02			RQ2101673-03				
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aroclor 1016	8082A	21100	20000	106	20900	20000	104	40-140	1	30
Aroclor 1260	8082A	22500	20000	112	21500	20000	107	53-127	4	30

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263

SURROGATE RECOVERY SUMMARY
Chlorinated Herbicides by GC

Analysis Method: 8151A
Extraction Method: Method

Sample Name	Lab Code	2,4-Dichlorophenylacetic
		Acid 10-151
TK-LQ-ST07-02092021	R2101263-001	61
TK-LQ-ST04-02092021	R2101263-002	39
TL-LQ-RC01-0210	R2101263-003	81
TK-LQ-RC03-02100	R2101263-004	42
TK-SD-RC04-0210	R2101263-005	90
Method Blank	RQ2101693-02	43
Lab Control Sample	RQ2101693-03	61
Duplicate Lab Control Sample	RQ2101693-04	69

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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2101693-02

Units: ug/Kg
Basis: As Received

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	2.0 U	2.0	-	1	02/23/21 17:09	2/19/21	
2,4,5-TP	2.0 U	2.0	-	1	02/23/21 17:09	2/19/21	
2,4-D	2.0 U	2.0	-	1	02/23/21 17:09	2/19/21	
Dicamba	2.0 U	2.0	-	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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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/23/21

Duplicate Lab Control Sample Summary
Chlorinated Herbicides by GC

Units:ug/Kg
Basis:As Received

Lab Control Sample
RQ2101693-03

Duplicate Lab Control Sample
RQ2101693-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
2,4,5-T	8151A	24.1	49.5	49	30.6	49.9	61	19-127	24	30
2,4,5-TP	8151A	26.2	49.5	53	32.4	49.9	65	18-122	21	30
2,4-D	8151A	25.5	49.5	52	33.3	49.9	67	24-165	27	30
Dicamba	8151A	24.0	49.5	48	29.4	49.9	59	26-128	20	30



Metals

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BLANKS

Contract: R2101263

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-LQ-ST07-0

Preparation Blank Matrix (soil/water): SOIL

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

Analyte	Initial Calib. Blank ug/L	Continuing Calibration Blank ug/L						Preparation Blank		M
		1	2	3						
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: R2101263

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-LQ-ST07-0

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank ug/L	Continuing Calibration Blank ug/L						Preparation Blank	C	M
		1	C	2	C	3	C			
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

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BLANKS

Contract: R2101263

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-LQ-ST07-0

Preparation Blank Matrix (soil/water): WATER

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

Analyte	Initial Calib. Blank ug/L	Continuing Calibration Blank ug/L						Preparation Blank	C	M
		1	C	2	C	3	C			
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: R2101263

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: TK-LQ-ST07-0

Solid LCS Source: CPI

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L			Solid (mg/K				
	True	Found	%R	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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Analytical Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid
Sample Name: Method Blank
Lab Code: R2101263-MB

Service Request: R2101263
Date Collected: NA
Date Received: NA
Basis: As Received

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Ammonia as Nitrogen, undistilled	350.1M	3.1 U	mg/Kg	5.0	3.1	1	02/23/21 16:17	

ALS Group USA, Corp.

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QA/QC Report

Client: Inventum Engineering
Project: RTTC Tanks
Sample Matrix: NonAq Liquid

Service Request: R2101263
Date Analyzed: 02/23/21

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg**Basis:**As Received**Lab Control Sample**

R2101263-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen, undistilled	350.1M	25.0	25.0	100	90-110



Subcontracted Analytical Parameters

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February 25, 2021

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1565 Jefferson Road
Building 300, Suite 360
Rochester, NY 14623

Certificate of Analysis

Project Name:	Custom EDD, MDL, QC	Workorder:	3158026
Purchase Order:	58-R2101263	Workorder ID:	AER558 R2101263

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Monday, February 15, 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.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

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

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**SAMPLE SUMMARY**

Workorder: 3158026 AER558|R2101263

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3158026001	TK-LQ-ST07-02092021	NY Non-Potable Water	2/9/2021 12:00	2/15/2021 09:26	Collected by Client
3158026002	TK-LQ-ST04-02092021	NY Non-Potable Water	2/9/2021 13:50	2/15/2021 09:26	Collected by Client
3158026003	TL-LW-RC01-0210	NY Non-Potable Water	2/10/2021 09:30	2/15/2021 09:26	Collected by Client
3158026004	TK-LQ-RC03-02100	NY Non-Potable Water	2/10/2021 10:50	2/15/2021 09:26	Collected by Client
3158026005	TK-SD-RC04-0210	NY Non-Potable Water	2/10/2021 10:50	2/15/2021 09:26	Collected by Client

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SAMPLE SUMMARY

Workorder: 3158026 AER558|R2101263

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 performed 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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PROJECT SUMMARY

Workorder: 3158026 AER558|R2101263

Workorder Comments

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

Project was received at a temperature greater than six degrees Celsius.

Project was received without the presence of ice.

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

Lab ID: **3158026001**

Date Collected: 2/9/2021 12:00

Matrix: NY Non-Potable Water

Sample ID: **TK-LQ-ST07-02092021**

Date Received: 2/15/2021 09:26

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	2/23/21 16:45 VXF	2/24/21 11:15	MXF	A
Flashpoint/Ignitability	See Comment 2	C,1,	Deg. F			SW-846 1010A		2/17/21 07:45	II	A
Sulfide, Reactive	10.4	C	mg/kg	6.2	1.4	SW846 7.3	2/23/21 16:45 VXF	2/23/21 22:50	VXF	A

Ms. Sarah S Leung
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

Lab ID: **3158026002**

Date Collected: 2/9/2021 13:50

Matrix: NY Non-Potable Water

Sample ID: **TK-LQ-ST04-02092021**

Date Received: 2/15/2021 09:26

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	2/23/21 16:45 VXF	2/24/21 11:15	MXF	A
Flashpoint/Ignitability	See Comment 2	C,1,	Deg. F			SW-846 1010A		2/17/21 07:45	II	A
Sulfide, Reactive	8.0	C	mg/kg	6.2	1.4	SW846 7.3	2/23/21 16:45 VXF	2/23/21 22:50	VXF	A

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

Lab ID: **3158026003**

Date Collected: 2/10/2021 09:30

Matrix: NY Non-Potable Water

Sample ID: **TL-LW-RC01-0210**

Date Received: 2/15/2021 09:26

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Reactive	ND	C	mg/kg	10.0	0.011	SW-846 7.3CN	2/23/21 16:45 VXF	2/24/21 11:15	MXF	A
Flashpoint/Ignitability	See Comment 2	C,1,	Deg. F			SW-846 1010A		2/17/21 07:45	II	A
Sulfide, Reactive	9.6	C	mg/kg	6.3	1.4	SW846 7.3	2/23/21 16:45 VXF	2/23/21 22:50	VXF	A

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

Lab ID: **3158026004**
Sample ID: **TK-LQ-RC03-02100**

Date Collected: 2/10/2021 10:50 Matrix: NY Non-Potable Water
Date Received: 2/15/2021 09:26

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	2/23/21 16:45 VXF	2/24/21 11:15	MXF	A
Flashpoint/Ignitability	See Comment 2	C,1,	Deg. F			SW-846 1010A		2/17/21 07:45	II	A
Sulfide, Reactive	8.8	C	mg/kg	6.2	1.4	SW846 7.3	2/23/21 16:45 VXF	2/23/21 22:50	VXF	A

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

Lab ID: **3158026005**

Date Collected: 2/10/2021 10:50

Matrix: NY Non-Potable Water

Sample ID: **TK-SD-RC04-0210**

Date Received: 2/15/2021 09:26

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Cyanide, Reactive	ND	C	mg/kg	10	0.011	SW-846 7.3CN	2/23/21 16:45 VXF	2/24/21 11:15	MXF	A
Flashpoint/Ignitability	See Comment 2	C,1,	Deg. F			SW-846 1010A		2/17/21 07:45	II	A
Sulfide, Reactive	11.2	C	mg/kg	6.2	1.4	SW846 7.3	2/23/21 16:45 VXF	2/23/21 22:50	VXF	A

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ANALYTICAL RESULTS

Workorder: 3158026 AER558|R2101263

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
3158026001	1	TK-LQ-ST07-02092021	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is considered to be ignitable. (Ref 40 CFR 261.21)				
3158026001	2	TK-LQ-ST07-02092021	SW-846 1010A	Flashpoint/Ignitability
The sample flashed at 125°F				
3158026002	1	TK-LQ-ST04-02092021	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is considered to be ignitable. (Ref 40 CFR 261.21)				
3158026002	2	TK-LQ-ST04-02092021	SW-846 1010A	Flashpoint/Ignitability
The sample flashed at 122°F				
3158026003	1	TL-LW-RC01-0210	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3158026003	2	TL-LW-RC01-0210	SW-846 1010A	Flashpoint/Ignitability
The sample did not flash up to 199°F				
3158026004	1	TK-LQ-RC03-02100	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3158026004	2	TK-LQ-RC03-02100	SW-846 1010A	Flashpoint/Ignitability
The sample flashed at 188°F				
3158026005	1	TK-SD-RC04-0210	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3158026005	2	TK-SD-RC04-0210	SW-846 1010A	Flashpoint/Ignitability
The sample did not flash up to 199°F				

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3158026 AER558|R2101263

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3158026001	TK-LQ-ST07-02092021	SW-846 1010A		
3158026001	TK-LQ-ST07-02092021	SW-846 7.3CN	SW-846 7.3CN	
3158026001	TK-LQ-ST07-02092021	SW846 7.3	SW846 7.3	
3158026002	TK-LQ-ST04-02092021	SW-846 1010A		
3158026002	TK-LQ-ST04-02092021	SW-846 7.3CN	SW-846 7.3CN	
3158026002	TK-LQ-ST04-02092021	SW846 7.3	SW846 7.3	
3158026003	TL-LW-RC01-0210	SW-846 1010A		
3158026003	TL-LW-RC01-0210	SW-846 7.3CN	SW-846 7.3CN	
3158026003	TL-LW-RC01-0210	SW846 7.3	SW846 7.3	
3158026004	TK-LQ-RC03-02100	SW-846 1010A		
3158026004	TK-LQ-RC03-02100	SW-846 7.3CN	SW-846 7.3CN	
3158026004	TK-LQ-RC03-02100	SW846 7.3	SW846 7.3	
3158026005	TK-SD-RC04-0210	SW-846 1010A		
3158026005	TK-SD-RC04-0210	SW-846 7.3CN	SW-846 7.3CN	
3158026005	TK-SD-RC04-0210	SW846 7.3	SW846 7.3	

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QUALITY CONTROL DATA

Workorder: 3158026 AER558|R2101263

QC Batch: WCPR/53974 **Analysis Method:** SW-846 7.3CN

QC Batch Method: SW-846 7.3CN

Associated Lab Samples: 3158026001, 3158026002, 3158026003, 3158026004, 3158026005

METHOD BLANK: 3282675

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Reactive	ND	mg/kg	10

LABORATORY CONTROL SAMPLE: 3282676

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Reactive	4.5	mg/kg	10	0.45J	0 - 92

SAMPLE DUPLICATE: 3282677 ORIGINAL: 3158924001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Cyanide, Reactive	0	mg/kg	0	NC	20

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QUALITY CONTROL DATA

Workorder: 3158026 AER558|R2101263

QC Batch: WCPR/53975 **Analysis Method:** SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples: 3158026001, 3158026002, 3158026003, 3158026004, 3158026005

METHOD BLANK: 3282678

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	4.8J	mg/kg	6.2

LABORATORY CONTROL SAMPLE: 3282679

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Sulfide, Reactive	72.7	mg/kg	567	412	49 - 148

SAMPLE DUPLICATE: 3282680 ORIGINAL: 3158924001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Sulfide, Reactive	6.38723	mg/kg	6	6.25	20

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**QUALITY CONTROL DATA**

Workorder: 3158026 AER558|R2101263

QC Batch: WETC/251164

Analysis Method: SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples:

METHOD BLANK: 3282737

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	mg/kg	6.3

METHOD BLANK: 3282739

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	mg/kg	6.3

METHOD BLANK: 3282741

Parameter	Blank Result	Units	Reporting Limit
Sulfide, Reactive	ND	mg/kg	6.3

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 3158026 AER558|R2101263

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
3279174	1	Duplicate	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is considered to be ignitable. (Ref 40 CFR 261.21)				
3279174	2	Duplicate	SW-846 1010A	Flashpoint/Ignitability
The sample flashed at 85°F				
3279175	3	Duplicate	SW-846 1010A	Flashpoint/Ignitability
According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)				
3279175	4	Duplicate	SW-846 1010A	Flashpoint/Ignitability
The sample did not flash up to 199°F				

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3158026 AER558|R2101263

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3158026001	TK-LQ-ST07-02092021	SW-846 7.3CN	WCPR/53974	SW-846 7.3CN	WETC/251198
3158026002	TK-LQ-ST04-02092021	SW-846 7.3CN	WCPR/53974	SW-846 7.3CN	WETC/251198
3158026003	TL-LW-RC01-0210	SW-846 7.3CN	WCPR/53974	SW-846 7.3CN	WETC/251198
3158026004	TK-LQ-RC03-02100	SW-846 7.3CN	WCPR/53974	SW-846 7.3CN	WETC/251198
3158026005	TK-SD-RC04-0210	SW-846 7.3CN	WCPR/53974	SW-846 7.3CN	WETC/251198
3158026001	TK-LQ-ST07-02092021	SW846 7.3	WCPR/53975	SW846 7.3	WETC/251164
3158026002	TK-LQ-ST04-02092021	SW846 7.3	WCPR/53975	SW846 7.3	WETC/251164
3158026003	TL-LW-RC01-0210	SW846 7.3	WCPR/53975	SW846 7.3	WETC/251164
3158026004	TK-LQ-RC03-02100	SW846 7.3	WCPR/53975	SW846 7.3	WETC/251164
3158026005	TK-SD-RC04-0210	SW846 7.3	WCPR/53975	SW846 7.3	WETC/251164

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ALS Environmental Chain of Custody

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

ALS Contact: Meghan Pedro

Project Number: R2101263
Project Manager: Meghan Pedro
QAP: LAB QAP

Lab Code	Sample ID	# of Cont.	Matrix	Sample		Lab ID	Flash 9014	Flash 1010A	Sulfide React 9034 Modified
				Date	Time				
R2101263-001	TK-LQ-ST07-02092021	2	NonAq Liquid	2/9/21	1200	Middletown ALS	X	X	X
R2101263-002	TK-LQ-ST04-02092021	1	NonAq Liquid	2/9/21	1350	Middletown ALS	X	X	X
R2101263-003	TL-LQ-RC01-0210	1	NonAq Liquid	2/10/21	0930	Middletown ALS	X	X	X
R2101263-004	TK-LQ-RC03-02100	1	NonAq Liquid	2/10/21	1050	Middletown ALS	X	X	X
R2101263-005	TK-SD-RC04-0210	1	NonAq Liquid	2/10/21	1050	Middletown ALS	X	X	X



Special Instructions/Comments	Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 STANDARD Requested FAX Date: _____ Requested Report Date: 03/01/21	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 Y EDD Y Y NYS DEC Equist 4	Invoice Information PO# 58R2101263 Bill to
H - Test is On Hold P - Test is Authorized for Prep Only Relinquished By: <u>Sherry N. G. [Signature]</u> 2/12/21 1330 Received By: <u>AS 2-1521 0920</u> Honeywell Vex			

ALS
 Thursday, February 25, 2021 7:55:02 AM
 Page 17 of 19
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 Page 1

R2101263

— Ship To: Middletown ALS
ALS Environmental - Middletown
301 Fulling Mill Rd.
Middletown, PA 17057

PC MP Date 2/12/21
SMO _____ Date _____

Instructions:

Ice _____
Dry Ice _____
No Ice _____

Shipping:

Overnight _____
2nd Day _____
Ground _____

Bill to Client Account _____

Comments:

ALS Group USA, Corp.
www.alsglobal.com
An ALS Limited Company

ALS



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

Condition of Sample Receipt Form

Client:	Work Order #:	Initials:	Date:
ALS NY	3158026		1/21/21

1. Were airbills / tracking numbers present and recorded?.....	NONE	☒ YES	NO
Tracking number: <u>17352434 7892</u>			
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	☒ YES	NO
5. Are the COC and bottle labels complete, legible and in agreement?.....	YES	☒ YES	NO
5a. Does the COC contain sample locations?.....	☒ YES	☒ YES	NO
5b. Does the COC contain date and time of sample collection for all samples?.....	☒ YES	☒ YES	NO
5c. Does the COC contain sample collectors name?.....	n/a	☒ YES	NO
5d. Does the COC note the type(s) of preservation for all bottles?.....	1	☒ YES	NO
5e. Does the COC note the number of bottles submitted for each sample?.....	☒ YES	☒ 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	☒ 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	☒ YES	NO
8. Are all samples within holding times for the requested analyses?.....	☒ YES	☒ YES	NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.).....	☒ YES	☒ 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	☒ YES	NO
12. Were sample temperatures measured at 0.0-6.0°C.....	☒ YES	☒ YES	NO
13. Are the samples DW matrix? If YES, fill out Reportable Drinking Water questions below.....	☒ YES	☒ 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): 12 _____
Thermometer ID: 524 _____
Radiological (µCi): _____

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

No ice

2-16-

¹Final 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



PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For
Inventum Engineering, P.C.

For Lab Project ID

220210

Referencing

Wash Water & TCLP

Prepared

Wednesday, January 26, 2022

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below:

Portions of the enclosed report reflects analysis that has been subcontracted and are presented in their original form.

Enclosed is a summary report; the complete ASP package will follow.

A handwritten signature in blue ink, reading "K. R. Hansen", is written over a horizontal line.

Certifies that this report has been approved by the Technical Director or Designee

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Corrosivity as pH

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Corrosivity (as pH)	7.24 @ 10.9 C	S.U.		1/20/2022 12:21

Method Reference(s): EPA 9045D

ELAP does not offer this test for approval as part of their laboratory certification program.

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Matrix: Aq Liquid

Date Received: 1/14/2022

Flash Point

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Flash Point, Celsius	> 70.0	C		1/20/2022

Method Reference(s): EPA 1010A

ELAP does not offer this test for approval as part of their laboratory certification program.

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Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	0.0290	mg/L		1/21/2022 06:59

Method Reference(s): EPA 7470A

Preparation Date: 1/20/2022

Data File: Hg220121A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	< 0.500	mg/L		1/19/2022 10:54
Antimony	< 0.300	mg/L		1/19/2022 10:54
Arsenic	0.0973	mg/L		1/19/2022 10:54
Barium	< 0.500	mg/L		1/19/2022 10:54
Beryllium	< 0.0250	mg/L		1/19/2022 10:54
Cadmium	< 0.0250	mg/L		1/19/2022 10:54
Calcium	39.0	mg/L		1/19/2022 10:54
Chromium	0.151	mg/L		1/19/2022 10:54
Cobalt	< 0.250	mg/L		1/19/2022 10:54
Copper	0.300	mg/L		1/19/2022 10:54
Iron	187	mg/L		1/19/2022 10:54
Lead	0.0954	mg/L		1/19/2022 10:54
Magnesium	13.7	mg/L		1/19/2022 10:54
Manganese	11.2	mg/L		1/19/2022 10:54
Molybdenum	< 0.125	mg/L		1/19/2022 10:54
Nickel	0.398	mg/L		1/19/2022 10:54
Potassium	9.84	mg/L	J	1/19/2022 10:54
Selenium	0.0552	mg/L	J	1/19/2022 10:54
Silver	< 0.0500	mg/L		1/19/2022 10:54
Sodium	240	mg/L		1/19/2022 10:54
Sulfur	532	mg/L	A	1/19/2022 07:33
Thallium	< 0.125	mg/L		1/19/2022 10:54
Vanadium	< 0.125	mg/L		1/19/2022 10:54

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Zinc	0.158	mg/L	J	1/19/2022 10:54
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Method Reference(s): EPA 6010C

EPA 3005A

Preparation Date: 1/18/2022

Data File: 220119C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

PCBs

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
PCB-1016	< 1.00	ug/L		1/19/2022 23:54
PCB-1221	< 1.00	ug/L		1/19/2022 23:54
PCB-1232	< 1.00	ug/L		1/19/2022 23:54
PCB-1242	< 1.00	ug/L		1/19/2022 23:54
PCB-1248	< 1.00	ug/L		1/19/2022 23:54
PCB-1254	< 1.00	ug/L		1/19/2022 23:54
PCB-1260	< 1.00	ug/L		1/19/2022 23:54
PCB-1262	< 1.00	ug/L		1/19/2022 23:54
PCB-1268	< 1.00	ug/L		1/19/2022 23:54

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
Tetrachloro-m-xylene	17.2	14.2 - 93		1/19/2022 23:54

Method Reference(s): EPA 8082A

EPA 3510C

Preparation Date: 1/19/2022

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Lab Project ID: 220210

Client: **Inventum Engineering, P.C.**

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed
4,4-DDD	0.153	ug/L	J	1/19/2022 17:05
4,4-DDE	< 0.200	ug/L		1/19/2022 17:05
4,4-DDT	< 0.200	ug/L		1/19/2022 17:05
Aldrin	< 0.200	ug/L		1/19/2022 17:05
alpha-BHC	0.147	ug/L	JP	1/19/2022 17:05
beta-BHC	0.159	ug/L	JP	1/19/2022 17:05
cis-Chlordane	< 0.200	ug/L		1/19/2022 17:05
delta-BHC	< 0.200	ug/L		1/19/2022 17:05
Dieldrin	1.30	ug/L	P	1/19/2022 17:05
Endosulfan I	< 0.200	ug/L		1/19/2022 17:05
Endosulfan II	< 0.200	ug/L		1/19/2022 17:05
Endosulfan Sulfate	< 0.200	ug/L		1/19/2022 17:05
Endrin	< 0.200	ug/L	L	1/19/2022 17:05
Endrin Aldehyde	< 0.200	ug/L		1/19/2022 17:05
Endrin Ketone	< 0.200	ug/L		1/19/2022 17:05
gamma-BHC (Lindane)	< 0.200	ug/L		1/19/2022 17:05
Heptachlor	< 0.200	ug/L		1/19/2022 17:05
Heptachlor Epoxide	< 0.200	ug/L		1/19/2022 17:05
Methoxychlor	0.121	ug/L	JP	1/19/2022 17:05
Toxaphene	< 2.00	ug/L		1/19/2022 17:05
trans-Chlordane	< 0.200	ug/L		1/19/2022 17:05

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
Decachlorobiphenyl (1)	11.5	17 - 148	*	1/19/2022	17:05
Tetrachloro-m-xylene (1)	8.59	18 - 112	*	1/19/2022	17:05

Method Reference(s): EPA 8081B

EPA 3510C

Preparation Date: 1/19/2022

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Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 1000	ug/L		1/21/2022 12:12
1,2,4,5-Tetrachlorobenzene	< 1000	ug/L		1/21/2022 12:12
1,2,4-Trichlorobenzene	< 1000	ug/L		1/21/2022 12:12
1,2-Dichlorobenzene	< 1000	ug/L		1/21/2022 12:12
1,3-Dichlorobenzene	< 1000	ug/L		1/21/2022 12:12
1,4-Dichlorobenzene	< 1000	ug/L		1/21/2022 12:12
2,2-Oxybis (1-chloropropane)	< 1000	ug/L		1/21/2022 12:12
2,3,4,6-Tetrachlorophenol	< 1000	ug/L		1/21/2022 12:12
2,4,5-Trichlorophenol	< 1000	ug/L		1/21/2022 12:12
2,4,6-Trichlorophenol	< 1000	ug/L		1/21/2022 12:12
2,4-Dichlorophenol	< 1000	ug/L		1/21/2022 12:12
2,4-Dimethylphenol	< 1000	ug/L		1/21/2022 12:12
2,4-Dinitrophenol	< 2000	ug/L		1/21/2022 12:12
2,4-Dinitrotoluene	< 1000	ug/L		1/21/2022 12:12
2,6-Dinitrotoluene	< 1000	ug/L		1/21/2022 12:12
2-Chloronaphthalene	< 1000	ug/L		1/21/2022 12:12
2-Chlorophenol	< 1000	ug/L		1/21/2022 12:12
2-Methylnapthalene	547	ug/L	J	1/21/2022 12:12
2-Methylphenol	< 1000	ug/L		1/21/2022 12:12
2-Nitroaniline	< 2000	ug/L		1/21/2022 12:12
2-Nitrophenol	< 1000	ug/L		1/21/2022 12:12
3&4-Methylphenol	< 1000	ug/L		1/21/2022 12:12
3,3'-Dichlorobenzidine	< 1000	ug/L		1/21/2022 12:12

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	ST03-DECON-01132022			
Lab Sample ID:	220210-01		Date Sampled:	1/13/2022
Matrix:	Aq Liquid		Date Received:	1/14/2022
3-Nitroaniline	< 2000	ug/L		1/21/2022 12:12
4,6-Dinitro-2-methylphenol	< 2000	ug/L		1/21/2022 12:12
4-Bromophenyl phenyl ether	< 1000	ug/L		1/21/2022 12:12
4-Chloro-3-methylphenol	< 1000	ug/L		1/21/2022 12:12
4-Chloroaniline	< 1000	ug/L		1/21/2022 12:12
4-Chlorophenyl phenyl ether	< 1000	ug/L		1/21/2022 12:12
4-Nitroaniline	< 2000	ug/L		1/21/2022 12:12
4-Nitrophenol	< 2000	ug/L		1/21/2022 12:12
Acenaphthene	< 1000	ug/L		1/21/2022 12:12
Acenaphthylene	< 1000	ug/L		1/21/2022 12:12
Acetophenone	< 1000	ug/L		1/21/2022 12:12
Anthracene	< 1000	ug/L		1/21/2022 12:12
Atrazine	< 2500	ug/L		1/21/2022 12:12
Benzaldehyde	< 1000	ug/L		1/21/2022 12:12
Benzo (a) anthracene	< 1000	ug/L		1/21/2022 12:12
Benzo (a) pyrene	< 1000	ug/L		1/21/2022 12:12
Benzo (b) fluoranthene	< 1000	ug/L		1/21/2022 12:12
Benzo (g,h,i) perylene	< 1000	ug/L		1/21/2022 12:12
Benzo (k) fluoranthene	< 1000	ug/L		1/21/2022 12:12
Bis (2-chloroethoxy) methane	< 1000	ug/L		1/21/2022 12:12
Bis (2-chloroethyl) ether	< 1000	ug/L		1/21/2022 12:12
Bis (2-ethylhexyl) phthalate	< 1000	ug/L		1/21/2022 12:12
Butylbenzylphthalate	< 1000	ug/L		1/21/2022 12:12
Caprolactam	< 1000	ug/L		1/21/2022 12:12
Carbazole	< 1000	ug/L		1/21/2022 12:12

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	ST03-DECON-01132022		
Lab Sample ID:	220210-01	Date Sampled:	1/13/2022
Matrix:	Aq Liquid	Date Received:	1/14/2022
Chrysene	< 1000	ug/L	1/21/2022 12:12
Dibenz (a,h) anthracene	< 1000	ug/L	1/21/2022 12:12
Dibenzofuran	< 1000	ug/L	1/21/2022 12:12
Diethyl phthalate	< 1000	ug/L	1/21/2022 12:12
Dimethyl phthalate	< 2000	ug/L	1/21/2022 12:12
Di-n-butyl phthalate	< 1000	ug/L	1/21/2022 12:12
Di-n-octylphthalate	< 1000	ug/L	1/21/2022 12:12
Fluoranthene	< 1000	ug/L	1/21/2022 12:12
Fluorene	< 1000	ug/L	1/21/2022 12:12
Hexachlorobenzene	< 1000	ug/L	1/21/2022 12:12
Hexachlorobutadiene	< 1000	ug/L	1/21/2022 12:12
Hexachlorocyclopentadiene	< 1000	ug/L	1/21/2022 12:12
Hexachloroethane	< 1000	ug/L	1/21/2022 12:12
Indeno (1,2,3-cd) pyrene	< 1000	ug/L	1/21/2022 12:12
Isophorone	< 1000	ug/L	1/21/2022 12:12
Naphthalene	8230	ug/L	1/21/2022 12:12
Nitrobenzene	< 1000	ug/L	1/21/2022 12:12
N-Nitroso-di-n-propylamine	< 1000	ug/L	1/21/2022 12:12
N-Nitrosodiphenylamine	< 1000	ug/L	1/21/2022 12:12
Pentachlorophenol	< 2000	ug/L	1/21/2022 12:12
Phenanthrene	< 1000	ug/L	1/21/2022 12:12
Phenol	< 1000	ug/L	1/21/2022 12:12
Pyrene	< 1000	ug/L	1/21/2022 12:12

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Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	NC	49.6 - 116		1/21/2022 12:12
2-Fluorobiphenyl	NC	18.6 - 104		1/21/2022 12:12
2-Fluorophenol	NC	10 - 105		1/21/2022 12:12
Nitrobenzene-d5	NC	51.2 - 99.6		1/21/2022 12:12
Phenol-d5	NC	10 - 104		1/21/2022 12:12
Terphenyl-d14	NC	55.6 - 122		1/21/2022 12:12

Method Reference(s): EPA 8270D

EPA 3510C

Preparation Date: 1/19/2022

Data File: B59453.D

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2000	ug/L		1/21/2022 15:41
1,1,2,2-Tetrachloroethane	< 2000	ug/L		1/21/2022 15:41
1,1,2-Trichloroethane	< 2000	ug/L		1/21/2022 15:41
1,1-Dichloroethane	< 2000	ug/L		1/21/2022 15:41
1,1-Dichloroethene	< 2000	ug/L		1/21/2022 15:41
1,2,3-Trichlorobenzene	< 5000	ug/L		1/21/2022 15:41
1,2,4-Trichlorobenzene	< 5000	ug/L		1/21/2022 15:41
1,2-Dibromo-3-Chloropropane	< 10000	ug/L		1/21/2022 15:41
1,2-Dibromoethane	< 2000	ug/L		1/21/2022 15:41
1,2-Dichlorobenzene	< 2000	ug/L		1/21/2022 15:41
1,2-Dichloroethane	< 2000	ug/L		1/21/2022 15:41
1,2-Dichloropropane	< 2000	ug/L		1/21/2022 15:41
1,3-Dichlorobenzene	< 2000	ug/L		1/21/2022 15:41
1,4-Dichlorobenzene	< 2000	ug/L		1/21/2022 15:41
1,4-Dioxane	< 10000	ug/L		1/21/2022 15:41
2-Butanone	< 10000	ug/L		1/21/2022 15:41
2-Hexanone	< 5000	ug/L		1/21/2022 15:41
4-Methyl-2-pentanone	< 5000	ug/L		1/21/2022 15:41
Acetone	< 10000	ug/L		1/21/2022 15:41
Benzene	< 1000	ug/L		1/21/2022 15:41
Bromochloromethane	< 5000	ug/L		1/21/2022 15:41
Bromodichloromethane	< 2000	ug/L		1/21/2022 15:41
Bromoform	< 5000	ug/L		1/21/2022 15:41

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

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Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Bromomethane	< 2000	ug/L	1/21/2022 15:41
Carbon disulfide	< 2000	ug/L	1/21/2022 15:41
Carbon Tetrachloride	< 2000	ug/L	1/21/2022 15:41
Chlorobenzene	< 2000	ug/L	1/21/2022 15:41
Chloroethane	< 2000	ug/L	1/21/2022 15:41
Chloroform	< 2000	ug/L	1/21/2022 15:41
Chloromethane	< 2000	ug/L	1/21/2022 15:41
cis-1,2-Dichloroethene	< 2000	ug/L	1/21/2022 15:41
cis-1,3-Dichloropropene	< 2000	ug/L	1/21/2022 15:41
Cyclohexane	< 10000	ug/L	1/21/2022 15:41
Dibromochloromethane	< 2000	ug/L	1/21/2022 15:41
Dichlorodifluoromethane	< 2000	ug/L	1/21/2022 15:41
Ethylbenzene	< 2000	ug/L	1/21/2022 15:41
Freon 113	< 2000	ug/L	1/21/2022 15:41
Isopropylbenzene	< 2000	ug/L	1/21/2022 15:41
m,p-Xylene	< 2000	ug/L	1/21/2022 15:41
Methyl acetate	< 2000	ug/L	1/21/2022 15:41
Methyl tert-butyl Ether	< 2000	ug/L	1/21/2022 15:41
Methylcyclohexane	< 2000	ug/L	1/21/2022 15:41
Methylene chloride	< 5000	ug/L	1/21/2022 15:41
o-Xylene	< 2000	ug/L	1/21/2022 15:41
Styrene	< 5000	ug/L	1/21/2022 15:41
Tetrachloroethene	< 2000	ug/L	1/21/2022 15:41
Toluene	< 2000	ug/L	1/21/2022 15:41
trans-1,2-Dichloroethene	< 2000	ug/L	1/21/2022 15:41

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

trans-1,3-Dichloropropene	< 2000	ug/L	1/21/2022 15:41
Trichloroethene	< 2000	ug/L	1/21/2022 15:41
Trichlorofluoromethane	< 2000	ug/L	1/21/2022 15:41
Vinyl chloride	< 2000	ug/L	1/21/2022 15:41

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	230	77.9 - 132	*	1/21/2022 15:41
4-Bromofluorobenzene	105	62.6 - 133		1/21/2022 15:41
Pentafluorobenzene	189	88.9 - 114	*	1/21/2022 15:41
Toluene-D8	113	75.6 - 117		1/21/2022 15:41

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z06788.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Total Cyanide

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Cyanide, Total	2.30	mg/L		1/20/2022

Method Reference(s): SM 4500 CN E - 2011

SM 4500 CN C - 2011

Preparation Date: 1/20/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		1/25/2022 17:08
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		1/25/2022 17:08
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		1/25/2022 17:08
2,4-Dinitrotoluene	< 40.0	ug/L	130		1/25/2022 17:08
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		1/25/2022 17:08
Hexachlorobenzene	< 40.0	ug/L	130		1/25/2022 17:08
Hexachlorobutadiene	< 40.0	ug/L	500		1/25/2022 17:08
Hexachloroethane	< 40.0	ug/L	3000		1/25/2022 17:08
Nitrobenzene	< 40.0	ug/L	2000		1/25/2022 17:08
Pentachlorophenol	< 80.0	ug/L	100000		1/25/2022 17:08
Pyridine	382	ug/L	5000		1/25/2022 17:08

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	72.4	49.6 - 116		1/25/2022 17:08
2-Fluorobiphenyl	63.3	18.6 - 104		1/25/2022 17:08
2-Fluorophenol	60.8	10 - 105		1/25/2022 17:08
Nitrobenzene-d5	63.6	51.2 - 99.6		1/25/2022 17:08
Phenol-d5	49.8	10 - 104		1/25/2022 17:08
Terphenyl-d14	27.9	55.6 - 122	*	1/25/2022 17:08

Internal standard outliers indicate probable matrix interference

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 1/19/2022
Data File: B59561.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Regulatory Limit</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	< 0.00200	mg/L	0.2		1/19/2022 10:05

Method Reference(s): EPA 7470A

EPA 1311

Preparation Date: 1/18/2022

Data File: Hg220119A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		1/24/2022 12:38
Endrin	0.971	ug/L	20	JP	1/24/2022 12:38
gamma-BHC (Lindane)	< 1.00	ug/L	400		1/24/2022 12:38
Heptachlor	< 1.00	ug/L	8		1/24/2022 12:38
Heptachlor Epoxide	< 1.00	ug/L	8		1/24/2022 12:38
Methoxychlor	< 1.00	ug/L	10000		1/24/2022 12:38
Toxaphene	< 20.0	ug/L	500		1/24/2022 12:38

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	17.2	17 - 148		1/24/2022 12:38
Tetrachloro-m-xylene (1)	56.4	18 - 112		1/24/2022 12:38

Internal standard outliers indicate probable matrix interference

Method Reference(s): EPA 8081B
EPA 1311 / 3510C
Preparation Date: 1/20/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		1/18/2022 15:34
Barium	< 0.500	mg/L	100		1/18/2022 15:34
Cadmium	< 0.0250	mg/L	1		1/18/2022 15:34
Chromium	< 0.500	mg/L	5		1/18/2022 15:34
Lead	< 0.500	mg/L	5		1/18/2022 15:34
Selenium	< 0.200	mg/L	1		1/18/2022 15:34
Silver	< 0.500	mg/L	5		1/18/2022 15:34

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 1/18/2022
Data File: 220118C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST03-DECON-01132022

Lab Sample ID: 220210-01A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 200	ug/L	700		1/21/2022 14:43
1,2-Dichloroethane	< 200	ug/L	500		1/21/2022 14:43
2-Butanone	< 1000	ug/L	200000		1/21/2022 14:43
Benzene	< 200	ug/L	500		1/21/2022 14:43
Carbon Tetrachloride	< 200	ug/L	500		1/21/2022 14:43
Chlorobenzene	< 200	ug/L	100000		1/21/2022 14:43
Chloroform	< 200	ug/L	6000		1/21/2022 14:43
Tetrachloroethene	< 200	ug/L	700		1/21/2022 14:43
Trichloroethene	< 200	ug/L	500		1/21/2022 14:43
Vinyl chloride	< 200	ug/L	200		1/21/2022 14:43

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	115	77.9 - 132		1/21/2022 14:43
4-Bromofluorobenzene	96.9	62.6 - 133		1/21/2022 14:43
Pentafluorobenzene	121	88.9 - 114	*	1/21/2022 14:43
Toluene-D8	119	75.6 - 117	*	1/21/2022 14:43

Reporting limit elevated due to non-target compounds

Method Reference(s): EPA 8260C

EPA 1311 / 5030C

Data File: z06785.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Corrosivity as pH

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Corrosivity (as pH)	8.47 @ 8.3 C	S.U.		1/20/2022 12:17

Method Reference(s): EPA 9045D

ELAP does not offer this test for approval as part of their laboratory certification program.

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Flash Point

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Flash Point, Celsius	> 70.0	C		1/20/2022

Method Reference(s): EPA 1010A

ELAP does not offer this test for approval as part of their laboratory certification program.

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	0.0317	mg/L		1/21/2022 07:01

Method Reference(s): EPA 7470A

Preparation Date: 1/20/2022

Data File: Hg220121A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	2.20	mg/L		1/19/2022 10:58
Antimony	< 0.300	mg/L		1/19/2022 10:58
Arsenic	0.189	mg/L		1/19/2022 10:58
Barium	0.683	mg/L		1/19/2022 10:58
Beryllium	< 0.0250	mg/L		1/19/2022 10:58
Cadmium	< 0.0250	mg/L		1/19/2022 10:58
Calcium	39.7	mg/L		1/19/2022 10:58
Chromium	0.105	mg/L		1/19/2022 10:58
Cobalt	< 0.250	mg/L		1/19/2022 10:58
Copper	0.839	mg/L		1/19/2022 10:58
Iron	151	mg/L		1/19/2022 10:58
Lead	1.93	mg/L		1/19/2022 10:58
Magnesium	7.37	mg/L	J	1/19/2022 10:58
Manganese	1.65	mg/L		1/19/2022 10:58
Molybdenum	0.150	mg/L		1/19/2022 10:58
Nickel	0.288	mg/L		1/19/2022 10:58
Potassium	18.3	mg/L		1/19/2022 10:58
Selenium	< 0.100	mg/L		1/19/2022 10:58
Silver	< 0.0500	mg/L		1/19/2022 10:58
Sodium	85.0	mg/L		1/19/2022 10:58
Sulfur	501	mg/L	A	1/19/2022 07:36
Thallium	< 0.125	mg/L		1/19/2022 10:58
Vanadium	< 0.125	mg/L		1/19/2022 10:58

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Lab Project ID: 220210

Client: **Inventum Engineering, P.C.**

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Zinc	0.883	mg/L	1/19/2022 10:58
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Method Reference(s): EPA 6010C

EPA 3005A

Preparation Date: 1/18/2022

Data File: 220119C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

PCBs

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
PCB-1016	< 1.00	ug/L		1/21/2022 20:53
PCB-1221	< 1.00	ug/L		1/21/2022 20:53
PCB-1232	< 1.00	ug/L		1/21/2022 20:53
PCB-1242	< 1.00	ug/L		1/21/2022 20:53
PCB-1248	< 1.00	ug/L		1/21/2022 20:53
PCB-1254	< 1.00	ug/L		1/21/2022 20:53
PCB-1260	< 1.00	ug/L		1/21/2022 20:53
PCB-1262	< 1.00	ug/L		1/21/2022 20:53
PCB-1268	< 1.00	ug/L		1/21/2022 20:53

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
Tetrachloro-m-xylene	26.1	14.2 - 93		1/21/2022 20:53

Method Reference(s): EPA 8082A

EPA 3510C

Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed
4,4-DDD	< 20.0	ug/L		1/24/2022 12:05
4,4-DDE	< 20.0	ug/L		1/24/2022 12:05
4,4-DDT	< 20.0	ug/L		1/24/2022 12:05
Aldrin	< 20.0	ug/L		1/24/2022 12:05
alpha-BHC	< 20.0	ug/L		1/24/2022 12:05
beta-BHC	< 20.0	ug/L		1/24/2022 12:05
cis-Chlordane	< 20.0	ug/L		1/24/2022 12:05
delta-BHC	< 20.0	ug/L		1/24/2022 12:05
Dieldrin	< 20.0	ug/L		1/24/2022 12:05
Endosulfan I	< 20.0	ug/L		1/24/2022 12:05
Endosulfan II	< 20.0	ug/L		1/24/2022 12:05
Endosulfan Sulfate	< 20.0	ug/L		1/24/2022 12:05
Endrin	< 20.0	ug/L		1/24/2022 12:05
Endrin Aldehyde	< 20.0	ug/L		1/24/2022 12:05
Endrin Ketone	< 20.0	ug/L		1/24/2022 12:05
gamma-BHC (Lindane)	< 20.0	ug/L		1/24/2022 12:05
Heptachlor	< 20.0	ug/L		1/24/2022 12:05
Heptachlor Epoxide	< 20.0	ug/L		1/24/2022 12:05
Methoxychlor	< 20.0	ug/L		1/24/2022 12:05
Toxaphene	< 200	ug/L		1/24/2022 12:05
trans-Chlordane	< 20.0	ug/L		1/24/2022 12:05

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	NC	17 - 148		1/24/2022 12:05
Tetrachloro-m-xylene (1)	NC	18 - 112		1/24/2022 12:05

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8081B

EPA 3510C

Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 20000	ug/L		1/26/2022 12:17
1,2,4,5-Tetrachlorobenzene	< 20000	ug/L		1/26/2022 12:17
1,2,4-Trichlorobenzene	< 20000	ug/L		1/26/2022 12:17
1,2-Dichlorobenzene	< 20000	ug/L		1/26/2022 12:17
1,3-Dichlorobenzene	< 20000	ug/L		1/26/2022 12:17
1,4-Dichlorobenzene	< 20000	ug/L		1/26/2022 12:17
2,2-Oxybis (1-chloropropane)	< 20000	ug/L		1/26/2022 12:17
2,3,4,6-Tetrachlorophenol	< 20000	ug/L		1/26/2022 12:17
2,4,5-Trichlorophenol	< 20000	ug/L		1/26/2022 12:17
2,4,6-Trichlorophenol	< 20000	ug/L		1/26/2022 12:17
2,4-Dichlorophenol	< 20000	ug/L		1/26/2022 12:17
2,4-Dimethylphenol	< 20000	ug/L		1/26/2022 12:17
2,4-Dinitrophenol	< 40000	ug/L		1/26/2022 12:17
2,4-Dinitrotoluene	< 20000	ug/L		1/26/2022 12:17
2,6-Dinitrotoluene	< 20000	ug/L		1/26/2022 12:17
2-Chloronaphthalene	< 20000	ug/L		1/26/2022 12:17
2-Chlorophenol	< 20000	ug/L		1/26/2022 12:17
2-Methylnaphthalene	< 20000	ug/L		1/26/2022 12:17
2-Methylphenol	< 20000	ug/L		1/26/2022 12:17
2-Nitroaniline	< 40000	ug/L		1/26/2022 12:17
2-Nitrophenol	< 20000	ug/L		1/26/2022 12:17
3&4-Methylphenol	< 20000	ug/L		1/26/2022 12:17
3,3'-Dichlorobenzidine	< 20000	ug/L		1/26/2022 12:17

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Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	ST04-DECON-01132022		
Lab Sample ID:	220210-02	Date Sampled:	1/13/2022
Matrix:	Aq Liquid	Date Received:	1/14/2022
3-Nitroaniline	< 40000	ug/L	1/26/2022 12:17
4,6-Dinitro-2-methylphenol	< 40000	ug/L	1/26/2022 12:17
4-Bromophenyl phenyl ether	< 20000	ug/L	1/26/2022 12:17
4-Chloro-3-methylphenol	< 20000	ug/L	1/26/2022 12:17
4-Chloroaniline	< 20000	ug/L	1/26/2022 12:17
4-Chlorophenyl phenyl ether	< 20000	ug/L	1/26/2022 12:17
4-Nitroaniline	< 40000	ug/L	1/26/2022 12:17
4-Nitrophenol	< 40000	ug/L	1/26/2022 12:17
Acenaphthene	< 20000	ug/L	1/26/2022 12:17
Acenaphthylene	< 20000	ug/L	1/26/2022 12:17
Acetophenone	< 20000	ug/L	1/26/2022 12:17
Anthracene	< 20000	ug/L	1/26/2022 12:17
Atrazine	< 50000	ug/L	1/26/2022 12:17
Benzaldehyde	< 20000	ug/L	1/26/2022 12:17
Benzo (a) anthracene	< 20000	ug/L	1/26/2022 12:17
Benzo (a) pyrene	< 20000	ug/L	1/26/2022 12:17
Benzo (b) fluoranthene	< 20000	ug/L	1/26/2022 12:17
Benzo (g,h,i) perylene	< 20000	ug/L	1/26/2022 12:17
Benzo (k) fluoranthene	< 20000	ug/L	1/26/2022 12:17
Bis (2-chloroethoxy) methane	< 20000	ug/L	1/26/2022 12:17
Bis (2-chloroethyl) ether	< 20000	ug/L	1/26/2022 12:17
Bis (2-ethylhexyl) phthalate	< 20000	ug/L	1/26/2022 12:17
Butylbenzylphthalate	< 20000	ug/L	1/26/2022 12:17
Caprolactam	< 20000	ug/L	1/26/2022 12:17
Carbazole	< 20000	ug/L	1/26/2022 12:17

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	ST04-DECON-01132022		
Lab Sample ID:	220210-02	Date Sampled:	1/13/2022
Matrix:	Aq Liquid	Date Received:	1/14/2022
Chrysene	< 20000	ug/L	1/26/2022 12:17
Dibenz (a,h) anthracene	< 20000	ug/L	1/26/2022 12:17
Dibenzofuran	< 20000	ug/L	1/26/2022 12:17
Diethyl phthalate	< 20000	ug/L	1/26/2022 12:17
Dimethyl phthalate	< 40000	ug/L	1/26/2022 12:17
Di-n-butyl phthalate	< 20000	ug/L	1/26/2022 12:17
Di-n-octylphthalate	< 20000	ug/L	1/26/2022 12:17
Fluoranthene	< 20000	ug/L	1/26/2022 12:17
Fluorene	< 20000	ug/L	1/26/2022 12:17
Hexachlorobenzene	< 20000	ug/L	1/26/2022 12:17
Hexachlorobutadiene	< 20000	ug/L	1/26/2022 12:17
Hexachlorocyclopentadiene	< 20000	ug/L	1/26/2022 12:17
Hexachloroethane	< 20000	ug/L	1/26/2022 12:17
Indeno (1,2,3-cd) pyrene	< 20000	ug/L	1/26/2022 12:17
Isophorone	< 20000	ug/L	1/26/2022 12:17
Naphthalene	42100	ug/L	1/26/2022 12:17
Nitrobenzene	< 20000	ug/L	1/26/2022 12:17
N-Nitroso-di-n-propylamine	< 20000	ug/L	1/26/2022 12:17
N-Nitrosodiphenylamine	< 20000	ug/L	1/26/2022 12:17
Pentachlorophenol	< 40000	ug/L	1/26/2022 12:17
Phenanthrene	< 20000	ug/L	1/26/2022 12:17
Phenol	< 20000	ug/L	1/26/2022 12:17
Pyrene	< 20000	ug/L	1/26/2022 12:17

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	NC	49.6 - 116		1/26/2022 12:17
2-Fluorobiphenyl	NC	18.6 - 104		1/26/2022 12:17
2-Fluorophenol	NC	10 - 105		1/26/2022 12:17
Nitrobenzene-d5	NC	51.2 - 99.6		1/26/2022 12:17
Phenol-d5	NC	10 - 104		1/26/2022 12:17
Terphenyl-d14	NC	55.6 - 122		1/26/2022 12:17

Method Reference(s): EPA 8270D

EPA 3510C

Preparation Date: 1/19/2022

Data File: B59571.D

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2000	ug/L		1/21/2022 16:01
1,1,2,2-Tetrachloroethane	< 2000	ug/L		1/21/2022 16:01
1,1,2-Trichloroethane	< 2000	ug/L		1/21/2022 16:01
1,1-Dichloroethane	< 2000	ug/L		1/21/2022 16:01
1,1-Dichloroethene	< 2000	ug/L		1/21/2022 16:01
1,2,3-Trichlorobenzene	< 5000	ug/L		1/21/2022 16:01
1,2,4-Trichlorobenzene	< 5000	ug/L		1/21/2022 16:01
1,2-Dibromo-3-Chloropropane	< 10000	ug/L		1/21/2022 16:01
1,2-Dibromoethane	< 2000	ug/L		1/21/2022 16:01
1,2-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:01
1,2-Dichloroethane	< 2000	ug/L		1/21/2022 16:01
1,2-Dichloropropane	< 2000	ug/L		1/21/2022 16:01
1,3-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:01
1,4-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:01
1,4-Dioxane	< 10000	ug/L		1/21/2022 16:01
2-Butanone	< 10000	ug/L		1/21/2022 16:01
2-Hexanone	< 5000	ug/L		1/21/2022 16:01
4-Methyl-2-pentanone	< 5000	ug/L		1/21/2022 16:01
Acetone	< 10000	ug/L		1/21/2022 16:01
Benzene	< 1000	ug/L		1/21/2022 16:01
Bromochloromethane	< 5000	ug/L		1/21/2022 16:01
Bromodichloromethane	< 2000	ug/L		1/21/2022 16:01
Bromoform	< 5000	ug/L		1/21/2022 16:01

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Bromomethane	< 2000	ug/L	1/21/2022 16:01
Carbon disulfide	< 2000	ug/L	1/21/2022 16:01
Carbon Tetrachloride	< 2000	ug/L	1/21/2022 16:01
Chlorobenzene	< 2000	ug/L	1/21/2022 16:01
Chloroethane	< 2000	ug/L	1/21/2022 16:01
Chloroform	< 2000	ug/L	1/21/2022 16:01
Chloromethane	< 2000	ug/L	1/21/2022 16:01
cis-1,2-Dichloroethene	< 2000	ug/L	1/21/2022 16:01
cis-1,3-Dichloropropene	< 2000	ug/L	1/21/2022 16:01
Cyclohexane	< 10000	ug/L	1/21/2022 16:01
Dibromochloromethane	< 2000	ug/L	1/21/2022 16:01
Dichlorodifluoromethane	< 2000	ug/L	1/21/2022 16:01
Ethylbenzene	< 2000	ug/L	1/21/2022 16:01
Freon 113	< 2000	ug/L	1/21/2022 16:01
Isopropylbenzene	< 2000	ug/L	1/21/2022 16:01
m,p-Xylene	2040	ug/L	1/21/2022 16:01
Methyl acetate	< 2000	ug/L	1/21/2022 16:01
Methyl tert-butyl Ether	< 2000	ug/L	1/21/2022 16:01
Methylcyclohexane	< 2000	ug/L	1/21/2022 16:01
Methylene chloride	< 5000	ug/L	1/21/2022 16:01
o-Xylene	1090	ug/L	J 1/21/2022 16:01
Styrene	< 5000	ug/L	1/21/2022 16:01
Tetrachloroethene	< 2000	ug/L	1/21/2022 16:01
Toluene	< 2000	ug/L	1/21/2022 16:01
trans-1,2-Dichloroethene	< 2000	ug/L	1/21/2022 16:01

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

trans-1,3-Dichloropropene	< 2000	ug/L	1/21/2022 16:01
Trichloroethene	< 2000	ug/L	1/21/2022 16:01
Trichlorofluoromethane	< 2000	ug/L	1/21/2022 16:01
Vinyl chloride	< 2000	ug/L	1/21/2022 16:01

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	109	77.9 - 132		1/21/2022 16:01
4-Bromofluorobenzene	96.1	62.6 - 133		1/21/2022 16:01
Pentafluorobenzene	113	88.9 - 114		1/21/2022 16:01
Toluene-D8	124	75.6 - 117	*	1/21/2022 16:01

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z06789.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Total Cyanide

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Cyanide, Total	2.81	mg/L		1/20/2022

Method Reference(s): SM 4500 CN E - 2011

SM 4500 CN C - 2011

Preparation Date: 1/20/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		1/21/2022 14:08
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		1/21/2022 14:08
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		1/21/2022 14:08
2,4-Dinitrotoluene	< 40.0	ug/L	130		1/21/2022 14:08
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		1/21/2022 14:08
Hexachlorobenzene	< 40.0	ug/L	130		1/21/2022 14:08
Hexachlorobutadiene	< 40.0	ug/L	500		1/21/2022 14:08
Hexachloroethane	< 40.0	ug/L	3000		1/21/2022 14:08
Nitrobenzene	< 40.0	ug/L	2000		1/21/2022 14:08
Pentachlorophenol	< 80.0	ug/L	100000		1/21/2022 14:08
Pyridine	33.7	ug/L	5000	J	1/21/2022 14:08

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	73.7	49.6 - 116		1/21/2022 14:08
2-Fluorobiphenyl	64.3	18.6 - 104		1/21/2022 14:08
2-Fluorophenol	54.0	10 - 105		1/21/2022 14:08
Nitrobenzene-d5	59.2	51.2 - 99.6		1/21/2022 14:08
Phenol-d5	51.7	10 - 104		1/21/2022 14:08
Terphenyl-d14	69.9	55.6 - 122		1/21/2022 14:08

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 1/19/2022
Data File: B59457.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Regulatory Limit</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	< 0.00200	mg/L	0.2		1/19/2022 10:07

Method Reference(s): EPA 7470A

EPA 1311

Preparation Date: 1/18/2022

Data File: Hg220119A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		1/24/2022 12:55
Endrin	< 1.00	ug/L	20		1/24/2022 12:55
gamma-BHC (Lindane)	< 1.00	ug/L	400		1/24/2022 12:55
Heptachlor	< 1.00	ug/L	8		1/24/2022 12:55
Heptachlor Epoxide	< 1.00	ug/L	8		1/24/2022 12:55
Methoxychlor	1.13	ug/L	10000	P	1/24/2022 12:55
Toxaphene	< 20.0	ug/L	500		1/24/2022 12:55

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	32.2	17 - 148		1/24/2022 12:55
Tetrachloro-m-xylene (1)	71.0	18 - 112		1/24/2022 12:55

Internal standard outliers indicate probable matrix interference

Method Reference(s): EPA 8081B
EPA 1311 / 3510C
Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		1/18/2022 15:39
Barium	< 0.500	mg/L	100		1/18/2022 15:39
Cadmium	< 0.0250	mg/L	1		1/18/2022 15:39
Chromium	< 0.500	mg/L	5		1/18/2022 15:39
Lead	< 0.500	mg/L	5		1/18/2022 15:39
Selenium	< 0.200	mg/L	1		1/18/2022 15:39
Silver	< 0.500	mg/L	5		1/18/2022 15:39

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 1/18/2022
Data File: 220118C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST04-DECON-01132022

Lab Sample ID: 220210-02A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 200	ug/L	700		1/21/2022 15:02
1,2-Dichloroethane	< 200	ug/L	500		1/21/2022 15:02
2-Butanone	< 1000	ug/L	200000		1/21/2022 15:02
Benzene	< 200	ug/L	500		1/21/2022 15:02
Carbon Tetrachloride	< 200	ug/L	500		1/21/2022 15:02
Chlorobenzene	< 200	ug/L	100000		1/21/2022 15:02
Chloroform	< 200	ug/L	6000		1/21/2022 15:02
Tetrachloroethene	< 200	ug/L	700		1/21/2022 15:02
Trichloroethene	< 200	ug/L	500		1/21/2022 15:02
Vinyl chloride	< 200	ug/L	200		1/21/2022 15:02

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	122	77.9 - 132		1/21/2022 15:02
4-Bromofluorobenzene	99.2	62.6 - 133		1/21/2022 15:02
Pentafluorobenzene	116	88.9 - 114	*	1/21/2022 15:02
Toluene-D8	114	75.6 - 117		1/21/2022 15:02

Reporting limit elevated due to non-target compounds

Method Reference(s): EPA 8260C

EPA 1311 / 5030C

Data File: z06786.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Corrosivity as pH

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Corrosivity (as pH)	6.48 @ 9.7 C	S.U.		1/20/2022 12:19

Method Reference(s): EPA 9045D

ELAP does not offer this test for approval as part of their laboratory certification program.

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Flash Point

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Flash Point, Celsius	45.0	C		1/21/2022

Method Reference(s): EPA 1010A

ELAP does not offer this test for approval as part of their laboratory certification program.

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	0.592	mg/L		1/21/2022 07:18

Method Reference(s): EPA 7470A

Preparation Date: 1/20/2022

Data File: Hg220121A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	18.9	mg/L		1/19/2022 11:03
Antimony	< 0.300	mg/L		1/19/2022 11:03
Arsenic	0.125	mg/L		1/19/2022 11:03
Barium	1.49	mg/L		1/19/2022 11:03
Beryllium	< 0.0250	mg/L		1/19/2022 11:03
Cadmium	0.0504	mg/L		1/19/2022 11:03
Calcium	246	mg/L		1/19/2022 11:03
Chromium	0.271	mg/L		1/19/2022 11:03
Cobalt	0.354	mg/L		1/19/2022 11:03
Copper	1.28	mg/L		1/19/2022 11:03
Iron	66.3	mg/L		1/19/2022 11:03
Lead	17.4	mg/L		1/19/2022 11:03
Magnesium	66.2	mg/L		1/19/2022 11:03
Manganese	4.50	mg/L		1/19/2022 11:03
Molybdenum	0.110	mg/L	J	1/19/2022 11:03
Nickel	1.17	mg/L		1/19/2022 11:03
Potassium	27.0	mg/L		1/19/2022 11:03
Selenium	0.0927	mg/L	J	1/19/2022 11:03
Silver	< 0.0500	mg/L		1/19/2022 11:03
Sodium	482	mg/L		1/19/2022 11:03
Sulfur	562	mg/L	A	1/19/2022 07:39
Thallium	< 0.125	mg/L		1/19/2022 11:03
Vanadium	< 0.125	mg/L		1/19/2022 11:03

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Zinc	125	mg/L	1/19/2022 12:58
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Method Reference(s): EPA 6010C

EPA 3005A

Preparation Date: 1/18/2022

Data File: 220119C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

PCBs

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
PCB-1016	< 10.0	ug/L		1/25/2022 03:55
PCB-1221	< 10.0	ug/L		1/25/2022 03:55
PCB-1232	< 10.0	ug/L		1/25/2022 03:55
PCB-1242	< 10.0	ug/L		1/25/2022 03:55
PCB-1248	< 10.0	ug/L		1/25/2022 03:55
PCB-1254	< 10.0	ug/L		1/25/2022 03:55
PCB-1260	< 10.0	ug/L		1/25/2022 03:55
PCB-1262	< 10.0	ug/L		1/25/2022 03:55
PCB-1268	< 10.0	ug/L		1/25/2022 03:55

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
Tetrachloro-m-xylene	NC	14.2 - 93		1/25/2022 03:55

Reporting limit elevated due to non-target compounds

Method Reference(s): EPA 8082A

EPA 3510C

Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed
4,4-DDD	< 20.0	ug/L		1/24/2022 12:22
4,4-DDE	< 20.0	ug/L		1/24/2022 12:22
4,4-DDT	< 20.0	ug/L		1/24/2022 12:22
Aldrin	< 20.0	ug/L		1/24/2022 12:22
alpha-BHC	< 20.0	ug/L		1/24/2022 12:22
beta-BHC	< 20.0	ug/L		1/24/2022 12:22
cis-Chlordane	< 20.0	ug/L		1/24/2022 12:22
delta-BHC	< 20.0	ug/L		1/24/2022 12:22
Dieldrin	< 20.0	ug/L		1/24/2022 12:22
Endosulfan I	< 20.0	ug/L		1/24/2022 12:22
Endosulfan II	< 20.0	ug/L		1/24/2022 12:22
Endosulfan Sulfate	< 20.0	ug/L		1/24/2022 12:22
Endrin	< 20.0	ug/L		1/24/2022 12:22
Endrin Aldehyde	< 20.0	ug/L		1/24/2022 12:22
Endrin Ketone	< 20.0	ug/L		1/24/2022 12:22
gamma-BHC (Lindane)	< 20.0	ug/L		1/24/2022 12:22
Heptachlor	< 20.0	ug/L		1/24/2022 12:22
Heptachlor Epoxide	< 20.0	ug/L		1/24/2022 12:22
Methoxychlor	< 20.0	ug/L		1/24/2022 12:22
Toxaphene	< 200	ug/L		1/24/2022 12:22
trans-Chlordane	< 20.0	ug/L		1/24/2022 12:22

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	NC	17 - 148		1/24/2022 12:22
Tetrachloro-m-xylene (1)	NC	18 - 112		1/24/2022 12:22

Reporting limit elevated due to sample matrix

Method Reference(s): EPA 8081B

EPA 3510C

Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: **Inventum Engineering, P.C.**

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 16000	ug/L		1/21/2022 13:10
1,2,4,5-Tetrachlorobenzene	< 16000	ug/L		1/21/2022 13:10
1,2,4-Trichlorobenzene	< 16000	ug/L		1/21/2022 13:10
1,2-Dichlorobenzene	< 16000	ug/L		1/21/2022 13:10
1,3-Dichlorobenzene	< 16000	ug/L		1/21/2022 13:10
1,4-Dichlorobenzene	< 16000	ug/L		1/21/2022 13:10
2,2-Oxybis (1-chloropropane)	< 16000	ug/L		1/21/2022 13:10
2,3,4,6-Tetrachlorophenol	< 16000	ug/L		1/21/2022 13:10
2,4,5-Trichlorophenol	< 16000	ug/L		1/21/2022 13:10
2,4,6-Trichlorophenol	< 16000	ug/L		1/21/2022 13:10
2,4-Dichlorophenol	< 16000	ug/L		1/21/2022 13:10
2,4-Dimethylphenol	< 16000	ug/L		1/21/2022 13:10
2,4-Dinitrophenol	< 32000	ug/L		1/21/2022 13:10
2,4-Dinitrotoluene	< 16000	ug/L		1/21/2022 13:10
2,6-Dinitrotoluene	< 16000	ug/L		1/21/2022 13:10
2-Chloronaphthalene	< 16000	ug/L		1/21/2022 13:10
2-Chlorophenol	< 16000	ug/L		1/21/2022 13:10
2-Methylnaphthalene	< 16000	ug/L		1/21/2022 13:10
2-Methylphenol	< 16000	ug/L		1/21/2022 13:10
2-Nitroaniline	< 32000	ug/L		1/21/2022 13:10
2-Nitrophenol	< 16000	ug/L		1/21/2022 13:10
3&4-Methylphenol	10900	ug/L	J	1/21/2022 13:10
3,3'-Dichlorobenzidine	< 16000	ug/L		1/21/2022 13:10

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

3-Nitroaniline	< 32000	ug/L	1/21/2022 13:10
4,6-Dinitro-2-methylphenol	< 32000	ug/L	1/21/2022 13:10
4-Bromophenyl phenyl ether	< 16000	ug/L	1/21/2022 13:10
4-Chloro-3-methylphenol	< 16000	ug/L	1/21/2022 13:10
4-Chloroaniline	< 16000	ug/L	1/21/2022 13:10
4-Chlorophenyl phenyl ether	< 16000	ug/L	1/21/2022 13:10
4-Nitroaniline	< 32000	ug/L	1/21/2022 13:10
4-Nitrophenol	< 32000	ug/L	1/21/2022 13:10
Acenaphthene	< 16000	ug/L	1/21/2022 13:10
Acenaphthylene	< 16000	ug/L	1/21/2022 13:10
Acetophenone	< 16000	ug/L	1/21/2022 13:10
Anthracene	< 16000	ug/L	1/21/2022 13:10
Atrazine	< 40000	ug/L	1/21/2022 13:10
Benzaldehyde	< 16000	ug/L	1/21/2022 13:10
Benzo (a) anthracene	< 16000	ug/L	1/21/2022 13:10
Benzo (a) pyrene	< 16000	ug/L	1/21/2022 13:10
Benzo (b) fluoranthene	< 16000	ug/L	1/21/2022 13:10
Benzo (g,h,i) perylene	< 16000	ug/L	1/21/2022 13:10
Benzo (k) fluoranthene	< 16000	ug/L	1/21/2022 13:10
Bis (2-chloroethoxy) methane	< 16000	ug/L	1/21/2022 13:10
Bis (2-chloroethyl) ether	< 16000	ug/L	1/21/2022 13:10
Bis (2-ethylhexyl) phthalate	< 16000	ug/L	1/21/2022 13:10
Butylbenzylphthalate	< 16000	ug/L	1/21/2022 13:10
Caprolactam	< 16000	ug/L	1/21/2022 13:10
Carbazole	< 16000	ug/L	1/21/2022 13:10

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	RC01-WASH01132022			Date Sampled:	1/13/2022
Lab Sample ID:	220210-03			Date Received:	1/14/2022
Matrix:	Aq Liquid				
Chrysene	< 16000	ug/L		1/21/2022	13:10
Dibenz (a,h) anthracene	< 16000	ug/L		1/21/2022	13:10
Dibenzofuran	< 16000	ug/L		1/21/2022	13:10
Diethyl phthalate	< 16000	ug/L		1/21/2022	13:10
Dimethyl phthalate	< 32000	ug/L		1/21/2022	13:10
Di-n-butyl phthalate	< 16000	ug/L		1/21/2022	13:10
Di-n-octylphthalate	< 16000	ug/L		1/21/2022	13:10
Fluoranthene	< 16000	ug/L		1/21/2022	13:10
Fluorene	< 16000	ug/L		1/21/2022	13:10
Hexachlorobenzene	< 16000	ug/L		1/21/2022	13:10
Hexachlorobutadiene	< 16000	ug/L		1/21/2022	13:10
Hexachlorocyclopentadiene	< 16000	ug/L		1/21/2022	13:10
Hexachloroethane	< 16000	ug/L		1/21/2022	13:10
Indeno (1,2,3-cd) pyrene	< 16000	ug/L		1/21/2022	13:10
Isophorone	< 16000	ug/L		1/21/2022	13:10
Naphthalene	< 16000	ug/L		1/21/2022	13:10
Nitrobenzene	< 16000	ug/L		1/21/2022	13:10
N-Nitroso-di-n-propylamine	< 16000	ug/L		1/21/2022	13:10
N-Nitrosodiphenylamine	< 16000	ug/L		1/21/2022	13:10
Pentachlorophenol	< 32000	ug/L		1/21/2022	13:10
Phenanthrene	< 16000	ug/L		1/21/2022	13:10
Phenol	107000	ug/L		1/21/2022	13:10
Pyrene	< 16000	ug/L		1/21/2022	13:10

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	NC	49.6 - 116		1/21/2022 13:10
2-Fluorobiphenyl	NC	18.6 - 104		1/21/2022 13:10
2-Fluorophenol	NC	10 - 105		1/21/2022 13:10
Nitrobenzene-d5	NC	51.2 - 99.6		1/21/2022 13:10
Phenol-d5	NC	10 - 104		1/21/2022 13:10
Terphenyl-d14	NC	55.6 - 122		1/21/2022 13:10

Method Reference(s): EPA 8270D

EPA 3510C

Preparation Date: 1/19/2022

Data File: B59455.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2000	ug/L		1/21/2022 16:20
1,1,2,2-Tetrachloroethane	< 2000	ug/L		1/21/2022 16:20
1,1,2-Trichloroethane	< 2000	ug/L		1/21/2022 16:20
1,1-Dichloroethane	< 2000	ug/L		1/21/2022 16:20
1,1-Dichloroethene	< 2000	ug/L		1/21/2022 16:20
1,2,3-Trichlorobenzene	< 5000	ug/L		1/21/2022 16:20
1,2,4-Trichlorobenzene	< 5000	ug/L		1/21/2022 16:20
1,2-Dibromo-3-Chloropropane	< 10000	ug/L		1/21/2022 16:20
1,2-Dibromoethane	< 2000	ug/L		1/21/2022 16:20
1,2-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:20
1,2-Dichloroethane	< 2000	ug/L		1/21/2022 16:20
1,2-Dichloropropane	< 2000	ug/L		1/21/2022 16:20
1,3-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:20
1,4-Dichlorobenzene	< 2000	ug/L		1/21/2022 16:20
1,4-Dioxane	< 10000	ug/L		1/21/2022 16:20
2-Butanone	< 10000	ug/L		1/21/2022 16:20
2-Hexanone	< 5000	ug/L		1/21/2022 16:20
4-Methyl-2-pentanone	< 5000	ug/L		1/21/2022 16:20
Acetone	< 10000	ug/L		1/21/2022 16:20
Benzene	1640	ug/L		1/21/2022 16:20
Bromochloromethane	< 5000	ug/L		1/21/2022 16:20
Bromodichloromethane	< 2000	ug/L		1/21/2022 16:20
Bromoform	< 5000	ug/L		1/21/2022 16:20

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier:	RC01-WASH01132022			Date Sampled:	1/13/2022
Lab Sample ID:	220210-03			Date Received:	1/14/2022
Matrix:	Aq Liquid				
Bromomethane	< 2000	ug/L		1/21/2022	16:20
Carbon disulfide	< 2000	ug/L		1/21/2022	16:20
Carbon Tetrachloride	< 2000	ug/L		1/21/2022	16:20
Chlorobenzene	< 2000	ug/L		1/21/2022	16:20
Chloroethane	< 2000	ug/L		1/21/2022	16:20
Chloroform	< 2000	ug/L		1/21/2022	16:20
Chloromethane	< 2000	ug/L		1/21/2022	16:20
cis-1,2-Dichloroethene	< 2000	ug/L		1/21/2022	16:20
cis-1,3-Dichloropropene	< 2000	ug/L		1/21/2022	16:20
Cyclohexane	< 10000	ug/L		1/21/2022	16:20
Dibromochloromethane	< 2000	ug/L		1/21/2022	16:20
Dichlorodifluoromethane	< 2000	ug/L		1/21/2022	16:20
Ethylbenzene	< 2000	ug/L		1/21/2022	16:20
Freon 113	< 2000	ug/L		1/21/2022	16:20
Isopropylbenzene	< 2000	ug/L		1/21/2022	16:20
m,p-Xylene	< 2000	ug/L		1/21/2022	16:20
Methyl acetate	< 2000	ug/L		1/21/2022	16:20
Methyl tert-butyl Ether	< 2000	ug/L		1/21/2022	16:20
Methylcyclohexane	< 2000	ug/L		1/21/2022	16:20
Methylene chloride	< 5000	ug/L		1/21/2022	16:20
o-Xylene	< 2000	ug/L		1/21/2022	16:20
Styrene	< 5000	ug/L		1/21/2022	16:20
Tetrachloroethene	< 2000	ug/L		1/21/2022	16:20
Toluene	< 2000	ug/L		1/21/2022	16:20
trans-1,2-Dichloroethene	< 2000	ug/L		1/21/2022	16:20

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

trans-1,3-Dichloropropene	< 2000	ug/L	1/21/2022 16:20
Trichloroethene	< 2000	ug/L	1/21/2022 16:20
Trichlorofluoromethane	< 2000	ug/L	1/21/2022 16:20
Vinyl chloride	< 2000	ug/L	1/21/2022 16:20

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	111	77.9 - 132		1/21/2022 16:20
4-Bromofluorobenzene	102	62.6 - 133		1/21/2022 16:20
Pentafluorobenzene	108	88.9 - 114		1/21/2022 16:20
Toluene-D8	109	75.6 - 117		1/21/2022 16:20

Method Reference(s): EPA 8260C

EPA 5030C

Data File: z06790.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03

Date Sampled: 1/13/2022

Matrix: Aq Liquid

Date Received: 1/14/2022

Total Cyanide

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Cyanide, Total	3.85	mg/L		1/20/2022

Method Reference(s): SM 4500 CN E - 2011

SM 4500 CN C - 2011

Preparation Date: 1/20/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 4000	ug/L	7500		1/25/2022 17:38
2,4,5-Trichlorophenol	< 4000	ug/L	400000		1/25/2022 17:38
2,4,6-Trichlorophenol	< 4000	ug/L	2000		1/25/2022 17:38
2,4-Dinitrotoluene	< 4000	ug/L	130		1/25/2022 17:38
Cresols (as m,p,o-Cresol)	29500	ug/L	200000		1/25/2022 17:38
Hexachlorobenzene	< 4000	ug/L	130		1/25/2022 17:38
Hexachlorobutadiene	< 4000	ug/L	500		1/25/2022 17:38
Hexachloroethane	< 4000	ug/L	3000		1/25/2022 17:38
Nitrobenzene	< 4000	ug/L	2000		1/25/2022 17:38
Pentachlorophenol	< 8000	ug/L	100000		1/25/2022 17:38
Pyridine	< 4000	ug/L	5000		1/25/2022 17:38

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	NC	49.6 - 116		1/25/2022 17:38
2-Fluorobiphenyl	NC	18.6 - 104		1/25/2022 17:38
2-Fluorophenol	NC	10 - 105		1/25/2022 17:38
Nitrobenzene-d5	NC	51.2 - 99.6		1/25/2022 17:38
Phenol-d5	NC	10 - 104		1/25/2022 17:38
Terphenyl-d14	NC	55.6 - 122		1/25/2022 17:38

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 1/19/2022
Data File: B59562.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Regulatory Limit</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	0.0555	mg/L	0.2		1/19/2022 10:09

Method Reference(s): EPA 7470A

EPA 1311

Preparation Date: 1/18/2022

Data File: Hg220119A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		1/24/2022 13:11
Endrin	2.39	ug/L	20	P	1/24/2022 13:11
gamma-BHC (Lindane)	< 1.00	ug/L	400		1/24/2022 13:11
Heptachlor	< 1.00	ug/L	8		1/24/2022 13:11
Heptachlor Epoxide	< 1.00	ug/L	8		1/24/2022 13:11
Methoxychlor	2.00	ug/L	10000		1/24/2022 13:11
Toxaphene	< 20.0	ug/L	500		1/24/2022 13:11

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	46.6	17 - 148		1/24/2022 13:11
Tetrachloro-m-xylene (1)	107	18 - 112		1/24/2022 13:11

Method Reference(s): EPA 8081B
EPA 1311 / 3510C
Preparation Date: 1/20/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		1/18/2022 15:43
Barium	0.510	mg/L	100		1/18/2022 15:43
Cadmium	0.0128	mg/L	1	J	1/18/2022 15:43
Chromium	< 0.500	mg/L	5		1/18/2022 15:43
Lead	7.76	mg/L	5		1/18/2022 15:43
Selenium	< 0.200	mg/L	1		1/18/2022 15:43
Silver	< 0.500	mg/L	5		1/18/2022 15:43

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 1/18/2022
Data File: 220118C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: RC01-WASH01132022

Lab Sample ID: 220210-03A

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 500	ug/L	700		1/21/2022 15:22
1,2-Dichloroethane	< 500	ug/L	500		1/21/2022 15:22
2-Butanone	< 2500	ug/L	200000		1/21/2022 15:22
Benzene	847	ug/L	500		1/21/2022 15:22
Carbon Tetrachloride	< 500	ug/L	500		1/21/2022 15:22
Chlorobenzene	< 500	ug/L	100000		1/21/2022 15:22
Chloroform	< 500	ug/L	6000		1/21/2022 15:22
Tetrachloroethene	< 500	ug/L	700		1/21/2022 15:22
Trichloroethene	< 500	ug/L	500		1/21/2022 15:22
Vinyl chloride	< 500	ug/L	200		1/21/2022 15:22

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	113	77.9 - 132		1/21/2022 15:22
4-Bromofluorobenzene	95.0	62.6 - 133		1/21/2022 15:22
Pentafluorobenzene	114	88.9 - 114		1/21/2022 15:22
Toluene-D8	108	75.6 - 117		1/21/2022 15:22

Method Reference(s): EPA 8260C
EPA 1311 / 5030C
Data File: z06787.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 4000	ug/L	7500		1/20/2022 00:17
2,4,5-Trichlorophenol	< 4000	ug/L	400000		1/20/2022 00:17
2,4,6-Trichlorophenol	< 4000	ug/L	2000		1/20/2022 00:17
2,4-Dinitrotoluene	< 4000	ug/L	130		1/20/2022 00:17
Cresols (as m,p,o-Cresol)	26700	ug/L	200000		1/20/2022 00:17
Hexachlorobenzene	< 4000	ug/L	130		1/20/2022 00:17
Hexachlorobutadiene	< 4000	ug/L	500		1/20/2022 00:17
Hexachloroethane	< 4000	ug/L	3000		1/20/2022 00:17
Nitrobenzene	< 4000	ug/L	2000		1/20/2022 00:17
Pentachlorophenol	< 8000	ug/L	100000		1/20/2022 00:17
Pyridine	< 4000	ug/L	5000		1/20/2022 00:17

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	NC	49.6 - 116		1/20/2022 00:17
2-Fluorobiphenyl	NC	18.6 - 104		1/20/2022 00:17
2-Fluorophenol	NC	10 - 105		1/20/2022 00:17
Nitrobenzene-d5	NC	51.2 - 99.6		1/20/2022 00:17
Phenol-d5	NC	10 - 104		1/20/2022 00:17
Terphenyl-d14	NC	55.6 - 122		1/20/2022 00:17

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 1/18/2022
Data File: B59424.D

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Mercury

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Regulatory Limit</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Mercury	< 0.00200	mg/L	0.2		1/19/2022 10:00

Method Reference(s): EPA 7470A

EPA 1311

Preparation Date: 1/18/2022

Data File: Hg220119A

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP PCBs

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
PCB-1016	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1221	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1232	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1242	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1248	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1254	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1260	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1262	< 10.0	ug/L	N/A		1/18/2022 16:14
PCB-1268	< 10.0	ug/L	N/A		1/18/2022 16:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	87.8	14.2 - 93		1/18/2022 16:14

Method Reference(s): EPA 8082A
EPA 1311 / 3510C
Preparation Date: 1/18/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		1/19/2022 15:59
Endrin	< 1.00	ug/L	20		1/19/2022 15:59
gamma-BHC (Lindane)	< 1.00	ug/L	400		1/19/2022 15:59
Heptachlor	< 1.00	ug/L	8		1/19/2022 15:59
Heptachlor Epoxide	< 1.00	ug/L	8		1/19/2022 15:59
Methoxychlor	< 1.00	ug/L	10000		1/19/2022 15:59
Toxaphene	< 20.0	ug/L	500		1/19/2022 15:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	97.8	17 - 148		1/19/2022 15:59
Tetrachloro-m-xylene (1)	80.8	18 - 112		1/19/2022 15:59

Method Reference(s): EPA 8081B
EPA 1311 / 3510C
Preparation Date: 1/19/2022

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		1/18/2022 12:49
Barium	< 0.500	mg/L	100		1/18/2022 12:49
Cadmium	< 0.0250	mg/L	1		1/18/2022 12:49
Chromium	< 0.500	mg/L	5		1/18/2022 12:49
Lead	< 0.500	mg/L	5		1/18/2022 12:49
Selenium	< 0.200	mg/L	1		1/18/2022 12:49
Silver	< 0.500	mg/L	5		1/18/2022 12:49

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 1/18/2022
Data File: 220118C

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Report Prepared Wednesday, January 26, 2022



Lab Project ID: 220210

Client: Inventum Engineering, P.C.

Project Reference: Wash Water & TCLP

Sample Identifier: ST21-TCLP-01132022

Lab Sample ID: 220210-04

Date Sampled: 1/13/2022

Matrix: TCLP Extract

Date Received: 1/14/2022

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 400	ug/L	700		1/18/2022 13:26
1,2-Dichloroethane	< 400	ug/L	500		1/18/2022 13:26
2-Butanone	< 2000	ug/L	200000		1/18/2022 13:26
Benzene	23600	ug/L	500		1/18/2022 13:26
Carbon Tetrachloride	< 400	ug/L	500		1/18/2022 13:26
Chlorobenzene	< 400	ug/L	100000		1/18/2022 13:26
Chloroform	< 400	ug/L	6000		1/18/2022 13:26
Tetrachloroethene	< 400	ug/L	700		1/18/2022 13:26
Trichloroethene	< 400	ug/L	500		1/18/2022 13:26
Vinyl chloride	< 400	ug/L	200		1/18/2022 13:26

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	109	77.9 - 132		1/18/2022 13:26
4-Bromofluorobenzene	108	62.6 - 133		1/18/2022 13:26
Pentafluorobenzene	102	88.9 - 114		1/18/2022 13:26
Toluene-D8	96.4	75.6 - 117		1/18/2022 13:26

Method Reference(s): EPA 8260C
EPA 1311 / 5030C
Data File: z06689.D

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Report Prepared Wednesday, January 26, 2022



Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.

"J" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted QC limits.

"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.

"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*

"(1)" = Indicates data from primary column used for QC calculation.

"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.

"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

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GENERAL TERMS AND CONDITIONS

LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty.

Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation.

LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB will use LAB default method for all tests unless specified otherwise on the Work Order.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices.

Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability.

In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.

Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure.

Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling.

Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.

Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on the final report.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility.

LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment.

LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure.

LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law.

This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

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PROJECT REFERENCE
WASH WATER & TEST

REQUESTED ANALYSIS

1057

See additional page for sample conditions.

2062



Chain of Custody Supplement

Client: Inventum Completed by: Molly Nail
 Lab Project ID: 220210 Date: 1/14/22

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

NELAC compliance with the sample condition requirements upon receipt-			
Condition	Yes	No	N/A
Container Type	☒	☐	☐
Comments	<u>Transferred portion of 01,02,03 to 125ml poly for T:n sub out</u>		
Transferred to method-compliant container	☒	☐	☐
Headspace (<1 mL)	☐	☐	☒
Comments			
Preservation	☒	☐	☒
Comments			
Chlorine Absent (<0.10 ppm per test strip)	☐	☐	☒
Comments			
Holding Time	☒	☐	☐
Comments			
Temperature	☒	☐	☒
Comments	<u>6° C used</u>		
Compliant Sample Quantity/Type	☒	☐	☐
Comments	<u>Lo vol for sample 05, client to send more metals not collected in certified container</u>		

Adirondack Environmental Services, Inc

Date: 24-Jan-22

CLIENT: Paradigm Environmental
Work Order: 220118012
Reference: Analysis of Samples / Project# 220210
PO#:

Client Sample ID: ST03-DECON-01132022
Collection Date: 1/13/2022 1:20:00 PM
Lab Sample ID: 220118012-001
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
CHLORINATED HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-T	ND	150		µg/L	1	1/20/2022 12:58:10 PM
2,4,5-TP (Silvex)	ND	150		µg/L	1	1/20/2022 12:58:10 PM
2,4-D	ND	250		µg/L	1	1/20/2022 12:58:10 PM
Surr: 4-Chlorophenoxyacetic Acid	113	65-130		%REC	1	1/20/2022 12:58:10 PM
Surr: Acifluorfen	123	65-130		%REC	1	1/20/2022 12:58:10 PM
ICP METALS - EPA 200.7						Analyst: KH
(Prep: SW3010A - 1/19/2022)						
Tin	34.8	50.0	J	µg/L	1	1/20/2022 12:01:00 PM
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: CS
Nitrogen, Ammonia (As N)	362	26.0		mg/L	257	1/24/2022 12:40:52 PM
HEAT VALUE - ASTM D240-09						Analyst: ZM
Heat Value	159	500	J	btu/lb	1	1/21/2022
SW 7.3.3.2, NOT ELAP CERTIFIED						Analyst: KB
(Prep: E335.4 - 1/21/2022)						
Reactive Cyanide	ND	1.0		µg/g	1	1/24/2022 3:00:25 PM
SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: CS
(Prep: E335.4 - 1/21/2022)						
Reactive Sulfide	ND	10		µg/g	1	1/24/2022
REACTIVITY - SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: TMD
Reactivity	Non Reactive	0			1	1/24/2022

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
E - Value above quantitation range-Estimate
S - LCS Spike below accepted limits (+ above)
Z - RPD outside accepted recovery limits
N - Matrix Spike below accepted limits (+ above)
T - Tentitively Identified Compound-Estimated Conc.

Adirondack Environmental Services, Inc

Date: 24-Jan-22

CLIENT: Paradigm Environmental
Work Order: 220118012
Reference: Analysis of Samples / Project# 220210
PO#:

Client Sample ID: ST04-DECON-01132022
Collection Date: 1/13/2022 1:30:00 PM
Lab Sample ID: 220118012-002
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
CHLORINATED HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-T	ND	150		µg/L	1	1/20/2022 1:21:45 PM
2,4,5-TP (Silvex)	ND	150		µg/L	1	1/20/2022 1:21:45 PM
2,4-D	ND	250		µg/L	1	1/20/2022 1:21:45 PM
Surr: 4-Chlorophenoxyacetic Acid	111	65-130		%REC	1	1/20/2022 1:21:45 PM
Surr: Acifluorfen	122	65-130		%REC	1	1/20/2022 1:21:45 PM
ICP METALS - EPA 200.7						Analyst: KH
(Prep: SW3010A - 1/19/2022)						
Tin	93.7	50.0		µg/L	1	1/20/2022 12:15:00 PM
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: CS
Nitrogen, Ammonia (As N)	565	51.0		mg/L	514	1/24/2022 1:24:05 PM
HEAT VALUE - ASTM D240-09						Analyst: ZM
Heat Value	< 500	500		btu/lb	1	1/21/2022
SW 7.3.3.2, NOT ELAP CERTIFIED						Analyst: KB
(Prep: E335.4 - 1/21/2022)						
Reactive Cyanide	ND	1.0		µg/g	1	1/24/2022 2:25:55 PM
SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: CS
(Prep: E335.4 - 1/21/2022)						
Reactive Sulfide	10	10	J	µg/g	1	1/24/2022
REACTIVITY - SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: TMD
Reactivity	Non Reactive	0			1	1/24/2022

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 X - Value exceeds Maximum Contaminant Level
 E - Value above quantitation range-Estimate

S - LCS Spike below accepted limits (+ above)
 Z - RPD outside accepted recovery limits
 N - Matrix Spike below accepted limits (+ above)
 T - Tentitively Identified Compound-Estimated Conc.

Adirondack Environmental Services, Inc

Date: 24-Jan-22

CLIENT: Paradigm Environmental
Work Order: 220118012
Reference: Analysis of Samples / Project# 220210
PO#:

Client Sample ID: RC01-Wash-01132022
Collection Date: 1/13/2022 2:00:00 PM
Lab Sample ID: 220118012-003
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
CHLORINATED HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-T	ND	150		µg/L	1	1/20/2022 1:45:20 PM
2,4,5-TP (Silvex)	ND	150		µg/L	1	1/20/2022 1:45:20 PM
2,4-D	ND	250		µg/L	1	1/20/2022 1:45:20 PM
Surr: 4-Chlorophenoxyacetic Acid	102	65-130		%REC	1	1/20/2022 1:45:20 PM
Surr: Acifluorfen	128	65-130		%REC	1	1/20/2022 1:45:20 PM
ICP METALS - EPA 200.7						Analyst: KH
(Prep: SW3010A - 1/19/2022)						
Tin	38.1	50.0	J	µg/L	1	1/20/2022 12:33:00 PM
AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0						Analyst: CS
Nitrogen, Ammonia (As N)	77.6	5.0		mg/L	50	1/24/2022 12:15:14 PM
HEAT VALUE - ASTM D240-09						Analyst: ZM
Heat Value	< 500	500		btu/lb	1	1/21/2022
SW 7.3.3.2, NOT ELAP CERTIFIED						Analyst: KB
(Prep: E335.4 - 1/21/2022)						
Reactive Cyanide	ND	1.0		µg/g	1	1/24/2022 2:27:38 PM
SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: CS
(Prep: E335.4 - 1/21/2022)						
Reactive Sulfide	15	10		µg/g	1	1/24/2022
REACTIVITY - SW 7.3.4.2, NOT ELAP CERTIFIED						Analyst: TMD
Reactivity	Non Reactive	0			1	1/24/2022

Qualifiers:
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 E - Value above quantitation range-Estimate

S - LCS Spike below accepted limits (+ above)
 Z - RPD outside accepted recovery limits
 N - Matrix Spike below accepted limits (+ above)
 T - Tentitively Identified Compound-Estimated Conc.



179 Lake Avenue, Rochester, NY 14608 Office (585) 847-2530 Fax (585) 847-3311

220118012

CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 107

REPORT TO:

INVOICE TO:

COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:		CLIENT PROJECT #:	
ADDRESS:		ADDRESS:		TURNAROUND TIME: (WORKING DAYS)			
CITY:		CITY:					
STATE:		STATE:					
ZIP:		ZIP:					
PHONE:		PHONE:					
FAX:		FAX:					
ATTN:	Reporting	ATTN:	Accounts Payable				
COMMENTS:	Please email results to reporting@paradigmenv.com						

REQUESTED ANALYSIS

repeat J.C. flags
ASPCat B Pailave Date 2/7
Sw 546 MTs

Date Due: 1/24/22

1 ☐ 2 ☐ 3 ☒ 5 ☐ STD

DATE	TIME	C O M P O S I T E	G R A B	SAMPLE LOCATION/FIELD ID	M A T T R I X	C O N T A I N E R	REMARKS	PARADIGM LAB SAMPLE NUMBER
1/13/22	1320	X		ST03-DEC00-01132022	Fin	X	220216-01	
2/11/22	1330	X		ST04-DEC00-01132022	Ammonia	X	220210-02	
3/11/22	1400	X		RC01-W056-01132022	Herb	X	220210-03	
4/11/22	1440	X		TK-RC03-SO-01132022	reactivity	X	220210-05	
5					BTU			
6								
7								
8								
9								
10								

LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter NELAC Compliance

Comments:	Container Type:	Y ☐ N ☐
Comments:	Preservation:	Y ☐ N ☐
Comments:	Holding Time:	Y ☐ N ☐
Comments:	Temperature:	Y ☐ N ☐

Client

Sampled By: Murphy Date/Time: 1/17/22 1600

Total Cost:

Relinquished By: Murphy Date/Time: 1/18/22 0830

Received By: WPS Date/Time: 1/19/22 10:18 AM

Received @ Lab By: [Signature] Date/Time: 1/19/22 10:18 AM





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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
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- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

Adirondack Environmental Services, Inc**Date:** 19-Jan-22**CLIENT:** Paradigm Environmental**Client Sample ID:** ST21-TCLP-01132022**Work Order:** 220118009**Collection Date:** 1/13/2022 12:00:00 PM**Reference:** Sample Analysis / Project# 220210**Lab Sample ID:** 220118009-001**PO#:****Matrix:** TCLP-EXTRACT

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TCLP HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/18/2022)						
2,4,5-TP (Silvex)-TCLP	ND	0.050		mg/L	1	1/18/2022 6:06:03 PM
2,4-D-TCLP	ND	0.050		mg/L	1	1/18/2022 6:06:03 PM
Surr: Acifluorfen	233	52.5-128	S	%REC	1	1/18/2022 6:06:03 PM
Surr: DCAA	148	56.2-139	S	%REC	1	1/18/2022 6:06:03 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
E - Value above quantitation range-Estimate

S - LCS Spike below accepted limits (+ above)
Z - RPD outside accepted recovery limits
N - Matrix Spike below accepted limits (+ above)
T - Tentatively Identified Compound-Estimated Conc.

22018009

CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 1

REPORT TO:				INVOICE TO:			
COMPANY:	Paradigm Environmental			COMPANY:	Same		
ADDRESS:				ADDRESS:			
CITY:	STATE:	ZIP:		CITY:	STATE:	ZIP:	
PHONE:	FAX:			PHONE:	FAX:		
ATTN:	Reporting			ATTN:	Accounts Payable		
COMMENTS:	Please email results to reporting@paradigmenv.com						
				LAB PROJECT #:	CLIENT PROJECT		
				TURNAROUND TIME: (WORKING DAYS)			
				<i>Reesh</i>			
				STD			
				1 2 3 5			
Date Due: 1/18/22							

220118009 Demo Page 81 of 87

DATE	TIME	C O M P O S I T E	G R A B	SAMPLE LOCATION/FIELD ID	M A T T R I X	C O N T A M I N A N T B I A S E N E R	REMARKS	PARADIGM LAB SAMPLE NUMBER
11/13/22	1200	X		ST 21-TCUP-01132022	TCUP	X	220210-04	217
2								
3								
4							Sample Spout Paradigm on	
5							11/11/22	
6								
7								
8								
9								
10								

****LAB USE ONLY BELOW THIS LINE****

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter		NELAP Compliance	
Comments:	Container Type: <u>Net AGS</u>	Y ☐	N ☐
Comments:	Preservation:	Y ☐	N ☐
Comments:	Holding Time:	Y ☐	N ☐
Comments:	Temperature: <u>4°C</u>	Y ☒	N ☐

Client	Date/Time	Total Cost:
Sampled By <i>Michael</i>	<i>11/17/22</i>	
Reinquired By <i>John</i>	<i>11/18/22/13:25</i>	
Received By	Date/Time	
<i>[Signature]</i>	<i>11/18/22</i>	
Received @ Lab By	Date/Time	
	<i>4:51 PM</i>	



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Adirondack Environmental Services, Inc**Date:** 21-Jan-22**CLIENT:** Paradigm Environmental**Client Sample ID:** ST03-DECON-01132022**Work Order:** 220119013**Collection Date:** 1/13/2022 1:20:00 PM**Reference:** Analysis of Samples / Project# 220210**Lab Sample ID:** 220119013-001**PO#:****Matrix:** TCLP-EXTRACT

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TCLP HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-TP (Silvex)-TCLP	ND	0.25		mg/L	1	1/20/2022 3:43:20 PM
2,4-D-TCLP	ND	0.25		mg/L	1	1/20/2022 3:43:20 PM
Surr: Acifluorfen	126	52.5-128		%REC	1	1/20/2022 3:43:20 PM
Surr: DCAA	127	56.2-139		%REC	1	1/20/2022 3:43:20 PM

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
E - Value above quantitation range-Estimate

S - LCS Spike below accepted limits (+ above)
Z - RPD outside accepted recovery limits
N - Matrix Spike below accepted limits (+ above)
T - Tentatively Identified Compound-Estimated Conc.

Adirondack Environmental Services, Inc

Date: 21-Jan-22

CLIENT: Paradigm Environmental

Client Sample ID: ST04-DECON-01132022

Work Order: 220119013

Collection Date: 1/13/2022 1:30:00 PM

Reference: Analysis of Samples / Project# 220210

Lab Sample ID: 220119013-002

PO#:

Matrix: TCLP-EXTRACT

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TCLP HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-TP (Silvex)-TCLP	ND	0.25		mg/L	1	1/20/2022 4:06:53 PM
2,4-D-TCLP	ND	0.25		mg/L	1	1/20/2022 4:06:53 PM
Surr: Acifluorfen	116	52.5-128		%REC	1	1/20/2022 4:06:53 PM
Surr: DCAA	106	56.2-139		%REC	1	1/20/2022 4:06:53 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
E - Value above quantitation range-Estimate

S - LCS Spike below accepted limits (+ above)
Z - RPD outside accepted recovery limits
N - Matrix Spike below accepted limits (+ above)
T - Tentatively Identified Compound-Estimated Conc.

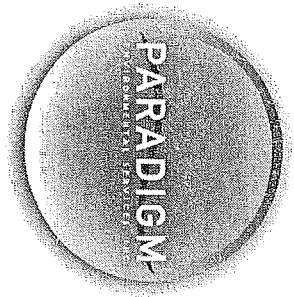
Adirondack Environmental Services, Inc**Date:** 21-Jan-22**CLIENT:** Paradigm Environmental**Client Sample ID:** RC01-Wash-01132022**Work Order:** 220119013**Collection Date:** 1/13/2022 2:00:00 PM**Reference:** Analysis of Samples / Project# 220210**Lab Sample ID:** 220119013-003**PO#:****Matrix:** TCLP-EXTRACT

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TCLP HERBICIDES - EPA 8321B						Analyst: KF
(Prep: SW3535A - 1/20/2022)						
2,4,5-TP (Silvex)-TCLP	ND	0.25		mg/L	1	1/20/2022 4:30:26 PM
2,4-D-TCLP	ND	0.25		mg/L	1	1/20/2022 4:30:26 PM
Surr: Acifluorfen	131	52.5-128	S	%REC	1	1/20/2022 4:30:26 PM
Surr: DCAA	83.9	56.2-139		%REC	1	1/20/2022 4:30:26 PM

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
E - Value above quantitation range-Estimate

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N - Matrix Spike below accepted limits (+ above)
T - Tentatively Identified Compound-Estimated Conc.



220119013 179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 1

REPORT TO:		INVOICE TO:	
COMPANY:	Paradigm Environmental	COMPANY:	Same
ADDRESS:		ADDRESS:	
CITY:		CITY:	
STATE:		STATE:	
ZIP:		ZIP:	
PHONE:		PHONE:	
FAX:		FAX:	
ATTN:	Reporting	ATTN:	Accounts Payable
COMMENTS: Please email results to reporting@paradigmenv.com			

REQUESTED ANALYSIS

Date Due: 11/24/22

As per 3rd Party due 2/7
Su 846 HTS

DATE	TIME	C O M P O S I T E	G R A B	SAMPLE LOCATION/FIELD ID	M A T R I X	C O N T A I N E R	REMARKS	PARADIGM SAMPLE NUMBER
11/19/22	1320		X	ST03-DEC01-01132022	extract	X	Samples Cited at	220210-014
2	1330		X	ST04-DEC01-01132022		X	Paradigm on 11/18/22	220210-024
3	1400		X	RC01-Wash-01132022		X	Per TCF extract	220210-034
4								
5								
6								
7								
8								
9								
10								

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter NELAC Compliance

Comments:	Container Type:	Y ☐	N ☐
Comments:	Preservation:	Y ☐	N ☐
Comments:	Holding Time:	Y ☐	N ☐
Comments:	Temperature:	Y ☐	N ☐

Client	Sampled By	Date/Time	Total Cost
	M. J. J. J.	11/19/22 0830	
	Relinquished By	Date/Time	
	M. J. J. J.	11/19/22 1223	
	Received By	Date/Time	P.L.F.
	M. J. J. J.	11/19/22 4:21	
	Received @ Lab By	Date/Time	





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