



July 1, 2022

To: Benjamin McPherson

From: John Black

CC: John Yensan, Daniel Flanigan, Kirsten Colligan, Roxaanne Birs, and Peter Zaffram

RE: Backfill Interim Remedial Measure Work Plan  
Exhaust Tunnel – South Side of Battery No. 2  
Riverview Innovation & Technology Campus, Inc.  
Town of Tonawanda, New York  
NYSDEC Site No. C915353

Following the demolition of the No. 2 coke oven battery (hereafter referred to as the “battery”) at the Riverview Innovation & Technology Campus (RITC) the former exhaust tunnel along the south side of the battery basement was exposed. The tunnel (Photograph No. 1) was capped with concrete supported by rectangular steel beams. The beams contained vermiculite (Photograph No. 2) which is classified in New York State as and asbestos containing material (ACM).





Photograph No. 1 – Exhaust Tunnel Looking West, After Removal of Tunnel Roof





Photograph No. 2 – Rectangular Beam with Vermiculite Fill

The water and sediment in the tunnel were assumed to contain ACM and were treated and disposed as ACM. 56 Services provided the independent monitoring and inspection for the ACM abatement. Following the dewatering and ACM inspection, the western section of the tunnel was inspected from the battery basement level. The tunnel walls and floor/base slab are compromised. The walls have lost the outer layer of concrete and one layer of reinforcing steel (Photograph No. 3 and No. 4). The grid pattern visible in the sidewall photographs is the reinforcing steel pattern that had been encased in an additional 2-inched of concrete. Both the outer layer of concrete and the reinforcing steel are missing from a majority of the tunnel. The floor concrete is deteriorated (Photograph No. 3) to the extent that the hydraulic excavator used to remove the sediment periodically removes pieces of concrete. The opening/access created by removal of the tunnel roof has revealed the condition of the tunnel and no personnel are allowed to enter the former tunnel.





Photograph No. 3 – Floor/base Slab and Southern Wall 100-feet from West End of Exhaust Tunnel



Photograph No. 4 – Floor/base 30-feet from West End of Exhaust Tunnel

The former tunnel is approximately 400 feet long, extending from the west end of former battery No. 2 to the former battery stack location. The depth of the tunnel varies from approximately 10-feet deep at the west end of the tunnel to 14-feet deep at the former stack location.



The water in the tunnel potentially contained ACM so it was managed in accordance with the ACM protocols; filtered through a 5 micron filter, treated in a granulated activated carbon vessel, and conveyed to the groundwater treatment system IRM system for secondary treatment prior to discharge to the Town of Tonawanda Sewer System. Following the initial dewatering, the water in the tunnel was found to contained elevated concentrations of Ammonia (Table 1, Attachment A). The ammonia concentrations detected were 40- to 124-times the SWPPP discharge criteria. The battery is not a monitored SWPPP location, but the presence of water with these concentrations in the vicinity of the box culvert could be at potential source contributing to the ammonia concentrations detected at Outfall #001. After being dewatered, the tunnel was monitored and gained approximately 6-inches of water over a weekend period. This equates to an average of approximately 3 gallons per minute of inflow to the tunnel. The tunnel is much deeper and in poorer condition than the box culvert, so less flow could have reached the box culvert.

The open tunnel presents a significant safety hazard, and absent the lateral support of the tunnel roof, could ultimately lead to a partial or complete collapse. The influent, if representative of groundwater in the vicinity of the tunnel, represents a potential source for the box culvert and ultimately Outfall #001.

Inventum Engineering is proposing to fill the former exhaust tunnel to eliminate the safety hazard while providing a system capable of collecting the seepage for conveyance to the treatment system. The proposed system would consist of placement of a minimum 3-inch diameter corrugated perforated tubing surrounded by #57 crushed stone aggregate. The pipe will be placed from the basement slab level using pipe or lumber (entry in the tunnel voids is prohibited). The tubing will be covered and surrounded with a minimum of 6-inches of crushed stone aggregate to allow collection of infiltrating water. A 36-inch (nominal) sump will be constructed at the south end of the tunnel and will be equipped with a submersible pump. Conveyance tubing will be installed to convey collected water from the sump to the treatment system.

Following placement of the collection tubing and crushed stone aggregate, the tunnel void will be filled to no less than 4 feet above the collection pipe with brick from the battery. The brick was over this location for decades and has been sampled and tested (Table 2, Attachment B). The brick is not ACM, and although it is brick, would meet the commercial Soil Cleanup Objectives (SCOs) if it were soil. The import request form is attached (Attachment C). A separation/marker layer of non-woven geotextile fabric (Mirafi 140N or approved substitute) will be placed over the brick fill. The material removed from over the tunnel roof will be placed and compacted over the fabric. The fill will be placed in lifts no greater than 12-inches thick and will be compacted by no less than two passes of a smooth drum compactor. The fill will be placed to allow the tunnel location to drain toward the battery foundation slab.

The sump will be operated on a manual basis, to balance accumulated water with treatment system capacity. After backfilling, the initial volumes of water extracted from the collection sump will be filtered and treated in accordance with the ACM protocols. Following initial evacuation, a fifth sample of the water will be collected as representative on the steady state water quality to verify it is consistent with the water quality submitted for approval of the tunnel water under Permit No. 331.

Please let us know if you have any questions about the proposed filling of the battery tunnel.



## 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 Backfill Interim Remedial Measure, Exhaust Tunnel – South Side of Battery No. 2 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).

Respectfully Submitted,

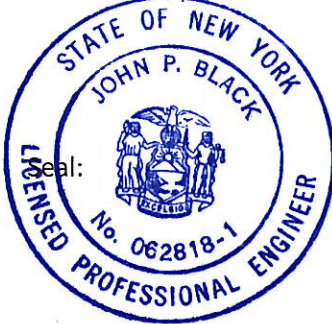
Inventum Engineering, P.C.



John P. Black, P.E.

Date: July 1, 2022

License No: 062818-1



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## Tables





Table 1  
Battery Tunnel Water Quality  
Riverview Innovation Technology Campus, Inc.  
Town of Tonawanda, New York

DRAFT

Analytes	Class GA Ambient Water Quality Standards and Guidance Values	Units	BATTERY-TUNNEL- 05182022		BATTERY-TUNNEL- 05172022		BATTERY-TUNNEL- 06012022		BATTERY-TUNNEL- 06162022			
			Sample Date		5/18/2022		5/17/2022		6/1/2022		6/16/2022	
											PENDING	
TCL VOCs (SW8260C)												
1,1,1-Trichloroethane (TCA)	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,1,2,2-Tetrachloroethane	5	ug/l	<0.17	U	<2.00	U	<0.17	U				
1,1,2-Trichloroethane	1	ug/l	<0.50	U	<2.00	U	<0.50	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon-113)	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,1-Dichloroethane	5	ug/l	<0.70	U	<2.00	U	<2.5	U				
1,1-Dichloroethene	5	ug/l	<0.17	U	<2.00	U	<0.17	U				
1,2,3-Trichlorobenzene	5	ug/l	<0.70	U	<5.00	U	<0.70	U				
1,2,4-Trichlorobenzene	5	ug/l	<0.70	U	<5.00	U	<0.70	U				
1,2-Dibromo-3-Chloropropane	0.04	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	ug/l	<0.65	U	<2.00	U	<0.65	U				
1,2-Dichlorobenzene	3	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,2-Dichloroethane	0.6	ug/l	<0.13	U	<2.00	U	<0.13	U				
1,2-Dichloropropane	1	ug/l	<0.14	U	<2.00	U	<0.14	U				
1,3-Dichlorobenzene	3	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,4-Dichlorobenzene	3	ug/l	<0.70	U	<2.00	U	<0.70	U				
1,4-Dioxane (P-Dioxane)	-	ug/l	<61.0	U	<10.0	U	<61.0	U				
Methyl Ethyl Ketone (2-Butanone)	50	ug/l	<1.9	U	<10.0	U	<1.9	U				
2-Hexanone	50	ug/l	<1.0	U	<5.00	U	<1.0	U				
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	-	ug/l	<1.0	U	<5.00	U	<1.0	U				
Acetone	50	ug/l	7.8		<10.0	U	21					
Benzene	1	ug/l	1.4		2.17		0.26	J				
Bromochloromethane	5	ug/l	<0.70	U	<5.00	U	<0.70	U				
Bromodichloromethane	50	ug/l	<0.19	U	<2.00	U	<0.19	U				
Bromoform	50	ug/l	<0.65	U	<5.00	U	<0.65	U				
Bromomethane	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Carbon Disulfide	-	ug/l	<1.0	U	<2.00	U	<1.0	U				
Carbon Tetrachloride	5	ug/l	<0.13	U	<2.00	U	<0.13	U				
Chlorobenzene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Chloroethane	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Chloroform	7	ug/l	<0.70	U	<2.00	U	<0.70	U				
Chloromethane	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Cyclohexane	-	ug/l	<0.27	U	<10.0	U	<0.27	U				
Dibromochloromethane	50	ug/l	<0.15	U	<2.00	U	<0.15	U				
Dichlorodifluoromethane	5	ug/l	<1.0	U	<2.00	U	<1.0	U				
Methylene Chloride	5	ug/l	<0.70	U	<5.00	U	<0.70	U				
Ethylbenzene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Isopropylbenzene (Cumene)	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Methyl Acetate	-	ug/l	<0.23	U	<2.00	U	<0.23	U				
Tert-Butyl Methyl Ether	-	ug/l	<0.70	U	<2.00	U	<0.70	U				
Methylcyclohexane	-	ug/l	<0.40	U	<2.00	U	<0.40	U				
Styrene	5	ug/l	<0.70	U	<5.00	U	<0.70	U				
Tetrachloroethylene (PCE)	5	ug/l	<0.18	U	<2.00	U	<0.18	U				
Toluene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Trichloroethylene (TCE)	5	ug/l	<0.18	U	<2.00	U	<0.18	U				
Trichlorofluoromethane	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Vinyl Chloride	2	ug/l	<0.07	U	<2.00	U	<0.07	U				
Cis-1,2-Dichloroethylene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Cis-1,3-Dichloropropene	0.4	ug/l	<0.14	U	<2.00	U	<0.14	U				
m,p-Xylene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
O-Xylene (1,2-Dimethylbenzene)	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Trans-1,2-Dichloroethene	5	ug/l	<0.70	U	<2.00	U	<0.70	U				
Trans-1,3-Dichloropropene	0.4	ug/l	<0.16	U	<2.00	U	<0.16	U				
TCL SVOCs (SW8270D)												
1,1-Biphenyl	5	ug/L	<0.46	U	<0.61	U	<0.64	U				
1,2,4,5-Tetrachlorobenzene	5	ug/L	<0.44	U	<0.60	U	<0.62	U				
2,3,4,6-Tetrachlorophenol	-	ug/L	<0.84	U	NS		<0.47	U				
2,4,5-Trichlorophenol	-	ug/L	<0.77	U	<0.37	U	<0.38	U				
2,4,6-Trichlorophenol	-	ug/L	<0.61	U	<0.48	U	<0.49	U				
2,4-Dichlorophenol	5	ug/L	<0.41	U	<0.51	U	<0.53	U				
2,4-Dimethylphenol	50	ug/L	<1.8	U	<1.0	U	<1.1	U				
2,4-Dinitrophenol	10	ug/L	<6.6	U	<3.4	U	<3.6	U				
2,4-Dinitrotoluene	5	ug/L	<1.2	U	<0.37	U	<0.38	U				
2,6-Dinitrotoluene	5	ug/L	<0.93	U	<0.35	U	<0.37	U				
2-Chloronaphthalene	10	ug/L	<0.02	U	0.52		<0.04	U				
2-Chlorophenol	-	ug/L	<0.48	U	<0.39	U	<0.40	U				



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			Sample Date		5/18/2022		5/17/2022		6/1/2022	
									6/16/2022	
									PENDING	
2-Methylnaphthalene	-	ug/L	0.92		2.0		0.14			
2-Methylphenol (O-Cresol)	-	ug/L	<0.49	U	<1.0	U	<1.1	U		
2-Nitroaniline	5	ug/L	<0.50	U	<0.50	U	<0.52	U		
2-Nitrophenol	-	ug/L	<10	U	<0.44	U	<0.46	U		
3,3'-Dichlorobenzidine	5	ug/L	<1.6	U	<0.82	U	<0.85	U		
Cresols, M & P (3&4-Methylphenol)	-	ug/L	<0.48	U	<0.53	U	<0.55	U		
3-Nitroaniline	5	ug/L	<0.81	U	<0.55	U	<0.57	U		
4,6-Dinitro-2-Methylphenol	-	ug/L	<1.8	U	<5.2	U	<5.4	U		
4-Bromophenyl Phenyl Ether	-	ug/L	<0.38	U	<0.61	U	<0.63	U		
4-Chloro-3-Methylphenol	-	ug/L	NS		NS		NS			
4-Chloroaniline	5	ug/L	<1.1	U	<0.62	U	<0.65	U		
4-Chlorophenyl Phenyl Ether	-	ug/L	<0.49	U	<0.76	U	<0.80	U		
4-Nitroaniline	5	ug/L	<0.80	U	<0.56	U	<0.58	U		
4-Nitrophenol	-	ug/L	<0.67	U	<1.1	U	<1.1	U		
Acenaphthene	20	ug/L	0.27		<1.0	U	0.53			
Acenaphthylene	-	ug/L	0.36		0.90	J	0.19			
Acetophenone	-	ug/L	<0.53	U	1.4	J	<0.98	U		
Anthracene	50	ug/L	0.24		0.97	J	<0.04	U		
Atrazine	7.5	ug/L	<0.76	U	NS		<1.7	U		
Benzo(A)Anthracene	0.002	ug/L	0.37		3.2		0.36			
Benzaldehyde	-	ug/L	<0.53	U	NS		<0.90	U		
Benzo(A)Pyrene	-	ug/L	0.18		1.4	J	0.14			
Benzo(B)Fluoranthene	0.002	ug/L	0.49		3.4		0.40			
Benzo(G,H,I)Perylene	-	ug/L	0.18		1.3	J	NS			
Benzo(K)Fluoranthene	0.002	ug/L	0.12		1.1	J	0.13			
Biphenyl (Diphenyl)	5	ug/L	<0.46	U	<0.61	U	<2.0	U		
Bis(2-Chloroisopropyl) Ether	5	ug/L	<0.53	U	<1.7	U	<1.8	U		
Bis(2-Chloroethoxy) Methane	5	ug/L	<0.50	U	<1.4	U	<1.5	U		
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	ug/L	<0.50	U	<0.85	U	<0.88	U		
Bis(2-Ethylhexyl) Phthalate	5	ug/L	<1.5	U	<1.4	U	<1.5	U		
Benzyl Butyl Phthalate	50	ug/L	<1.2	U	<2.1	U	<2.2	U		
Caprolactam	-	ug/L	<3.3	U	NS		<1.3	U		
Carbazole	-	ug/L	<0.49	U	1.1	J	<0.76	U		
Chrysene	0.002	ug/L	0.47		4.2		0.47			
Di-N-Butyl Phthalate	50	ug/L	<0.39	U	<0.56	U	<0.58	U		
Di-N-Octylphthalate	50	ug/L	<1.3	U	<2.3	U	<2.4	U		
Dibenz(A,H)Anthracene	-	ug/L	0.08	J	0.45	J	0.05	J		
Dibenzofuran	-	ug/L	<0.50	U	1.1	J	<0.82	U		
Diethyl Phthalate	50	ug/L	<0.38	U	<4.1	U	<4.3	U		
Dimethyl Phthalate	50	ug/L	<1.8	U	<4.3	U	<4.4	U		
Fluoranthene	50	ug/L	0.78		5.9		1.0			
Fluorene	50	ug/L	0.40		<1.0	U	0.25			
Hexachlorobenzene	0.04	ug/L	<0.80	U	<0.66	U	<0.03	U		
Hexachlorobutadiene	0.5	ug/L	<0.05	U	<0.58	U	<0.04	U		
Hexachlorocyclopentadiene	5	ug/L	<0.69	U	<0.58	U	<0.61	U		
Hexachloroethane	5	ug/L	<0.80	U	<0.42	U	<0.03	U		
Indeno(1,2,3-C,D)Pyrene	0.002	ug/L	0.19		1.4	J	0.16			
Isophorone	50	ug/L	<1.2	U	<0.63	U	<0.66	U		
N-Nitrosodi-N-Propylamine	-	ug/L	<0.64	U	<0.74	U	<0.77	U		
N-Nitrosodiphenylamine	50	ug/L	<0.42	U	<0.62	U	NS			
Naphthalene	10	ug/L	7.4		11.0		0.31			
Nitrobenzene	0.4	ug/L	<0.77	U	<0.63	U	<0.66	U		
Pentachlorophenol	1	ug/L	<0.80	U	<1.9	U	0.38	J		
Phenanthrene	50	ug/L	0.87		4.1		0.45			
Phenol	1	ug/L	<0.57	U	<1.2	U	<1.3	U		
Pyrene	50	ug/L	0.54		4.0		0.71			
<b>TAL Metals (SW6010)</b>										
Aluminum	-	mg/L	1.92		8.72		0.235			
Antimony	0.003	mg/L	<0.007	U	<0.007	U	<0.007	U		
Arsenic	0.025	mg/L	0.007		0.041		0.003	J		
Barium	1	mg/L	0.033		0.110		0.038			
Beryllium	0.003	mg/L	<0.001	U	<0.001	U	<0.001	U		
Cadmium	0.005	mg/L	0.052		0.017		0.003	J		
Calcium	-	mg/L	558		671		1080			
Chromium, Total	0.05	mg/L	0.005	J	0.140		0.004	J		
Cobalt	-	mg/L	0.048		0.026		0.016			
Copper	0.2	mg/L	0.004	J	0.100		0.006	J		



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			Sample Date		5/18/2022		5/17/2022		6/1/2022	
									6/16/2022	
									PENDING	
Iron	0.3	mg/L	7.66		31.7		1.78			
Lead	0.025	mg/L	0.010		0.257		0.010	J		
Magnesium	35	mg/L	108		65.1		126			
Manganese	0.3	mg/L	5.42		3.01		5.48			
Nickel	0.1	mg/L	0.495		0.234		0.108			
Potassium	-	mg/L	256		232		357			
Selenium	0.01	mg/L	0.004	J	0.013		<0.004	U		
Silver	0.05	mg/L	<0.003	U	<0.003	U	<0.003	U		
Sodium	20	mg/L	490		452		1130			
Thallium	0.0005	mg/L	0.009	J	0.008		0.015			
Vanadium	-	mg/L	0.008	J	0.018		<0.002	U		
Zinc	2	mg/L	3.86		1.79		0.413			
<b>Mercury 7470</b>										
Mercury	0.7	ug/L	0.11		0.00400		0.09			
<b>Cyanide (SW9012B/ KELADA-01)</b>										
Cyanide	0.20	mg/L	0.334		0.359		0.213			
<b>PCBs (8082A)</b>										
PCB-1016 (Aroclor 1016)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1221 (Aroclor 1221)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1232 (Aroclor 1232)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1242 (Aroclor 1242)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1248 (Aroclor 1248)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1254 (Aroclor 1254)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1260 (Aroclor 1260)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1260 (Aroclor 1262)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
PCB-1260 (Aroclor 1268)	0.09	ug/L	<0.061	U	<0.083	U	<0.013	U		
<b>Ammonia (E350.1)</b>										
Nitrogen, Ammonia (As N)	2	mg/L	62.2		78.9		165			
<b>Asbestos</b>										
Asbestos (million fibers per liter)	-	MFL	<49.00	U	<92.0	U	<4.90	U		
Notes:										
NS = Not Sampled										
NC = Not Calculable										
NA = Sample collected, but not analyzed										
"C" = 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										
<b>Bold</b> = Analyte was detected										



Table 2  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022		BRICK-RED-03222022		BRICK-YELW-03222022		BRICK-GRAY-03222022	
Contents			Refractory Brick		Red Brick		Yellow Brick		Grey Brick	
Location			Battery		Battery		Battery		Battery	
SW8260C										
1,1,1-Trichloroethane (TCA)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2,2-Tetrachloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2-Trichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1-Dichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1-Dichloroethene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2,3-Trichlorobenzene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
1,2,4-Trichlorobenzene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
1,2-Dibromo-3-Chloropropane		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
1,2-Dibromoethane (Ethylene Dibromide)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichloropropane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,3-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,4-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,4-Dioxane (P-Dioxane)		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Methyl Ethyl Ketone (2-Butanone)		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
2-Hexanone		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Acetone		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Benzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Bromochloromethane		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Bromodichloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Bromoform		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Bromomethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Carbon Disulfide		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Carbon Tetrachloride		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloroform		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cyclohexane		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Dibromochloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Dichlorodifluoromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methylene Chloride		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Ethylbenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Isopropylbenzene (Cumene)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methyl Acetate		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Tert-Butyl Methyl Ether		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methylcyclohexane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Styrene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Tetrachloroethylene (PCE)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Toluene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trichloroethylene (TCE)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trichlorofluoromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Vinyl Chloride		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cis-1,2-Dichloroethylene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cis-1,3-Dichloropropene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
m,p-Xylene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
O-Xylene (1,2-Dimethylbenzene)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trans-1,2-Dichloroethene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trans-1,3-Dichloropropene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U



Table 1  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022	BRICK-RED-03222022	BRICK-YELW-03222022	BRICK-GRAY-03222022
Contents			Refractory Brick	Red Brick	Yellow Brick	Grey Brick
Location			Battery	Battery	Battery	Battery
SW8270D						
1,2,4,5-Tetrachlorobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
2,3,4,6-Tetrachlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4,5-Trichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4,6-Trichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dimethylphenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dinitrophenol		ug/kg	<1140 U	<1110 U	<1080 U	<1140 U
2,4-Dinitrotoluene		ug/kg	<284 U	<278 U	<269 U	<284 U
2,6-Dinitrotoluene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Chloronaphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Chlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Methylnaphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Methylphenol (O-Cresol)		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Nitrophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
3,3'-Dichlorobenzidine		ug/kg	<284 U	<278 U	<269 U	<284 U
Cresols, M & P		ug/kg	<284 U	<278 U	<269 U	<284 U
3-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4,6-Dinitro-2-Methylphenol		ug/kg	<380 U	<372 U	<360 U	<380 U
4-Bromophenyl Phenyl Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chloro-3-Methylphenol		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chloroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chlorophenyl Phenyl Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Nitrophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
Acenaphthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Acenaphthylene		ug/kg	<284 U	<278 U	<269 U	<284 U
Acetophenone		ug/kg	<284 U	<278 U	<269 U	<284 U
Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Atrazine		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(A)Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzaldehyde		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(A)Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(B)Fluoranthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(G,H,I)Perylene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(K)Fluoranthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Biphenyl (Diphenyl)		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroisopropyl) Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroethoxy) Methane		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Ethylhexyl) Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzyl Butyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Caprolactam		ug/kg	<284 U	<278 U	<269 U	<284 U
Carbazole		ug/kg	<284 U	<278 U	<269 U	<284 U
Chrysene		ug/kg	<284 U	301	<269 U	<284 U
Di-N-Butyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Di-N-Octylphthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Dibenz(A,H)Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Dibenzofuran		ug/kg	<284 U	<278 U	<269 U	<284 U
Diethyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Dimethyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Fluoranthene		ug/kg	<284 U	499	<269 U	<284 U
Fluorene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorobutadiene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorocyclopentadiene		ug/kg	<1140 U	<1110 U	<1080 U	<1140 U
Hexachloroethane		ug/kg	<284 U	<278 U	<269 U	<284 U
Indeno(1,2,3-C,D)Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U
Isophorone		ug/kg	<284 U	<278 U	<269 U	<284 U
N-Nitrosodi-N-Propylamine		ug/kg	<284 U	<278 U	<269 U	<284 U
N-Nitrosodiphenylamine		ug/kg	<284 U	<278 U	<269 U	<284 U
Naphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
Nitrobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
Pentachlorophenol		ug/kg	<568 U	<556 U	<538 U	<568 U
Phenanthrene		ug/kg	<284 U	431	<269 U	<284 U
Phenol		ug/kg	<284 U	<278 U	<269 U	<284 U
Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U



Table 1  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022	BRICK-RED-03222022	BRICK-YELW-03222022	BRICK-GRAY-03222022
<b>Contents</b>			Refractory Brick	Red Brick	Yellow Brick	Grey Brick
<b>Location</b>			Battery	Battery	Battery	Battery
<b>TCLP - SW8260C</b>						
1,2-Dichloroethane	500	ug/L	<20.0	U	<20.0	U
Chlorobenzene	100000	ug/L	<20.0	U	<20.0	U
Tetrachloroethylene (PCE)	700	ug/L	<20.0	U	<20.0	U
Carbon Tetrachloride	500	ug/L	<20.0	U	<20.0	U
Chloroform	6000	ug/L	<20.0	U	<20.0	U
Benzene	500	ug/L	<20.0	U	<20.0	U
Vinyl Chloride	200	ug/L	<20.0	U	<20.0	U
1,1-Dichloroethene	700	ug/L	<20.0	U	<20.0	U
Methyl Ethyl Ketone (2-Butanone)	200000	ug/L	<100	U	<100	U
Trichloroethylene (TCE)	500	ug/L	<20.0	U	<20.0	U
<b>TCLP - SW8270D</b>						
1,4-Dichlorobenzene	7500	ug/L	<40.0	U	<40.0	U
2,4,5-Trichlorophenol	400000	ug/L	<40.0	U	<40.0	U
2,4,6-Trichlorophenol	2000	ug/L	<40.0	U	<40.0	U
2,4-Dinitrotoluene	130	ug/L	<40.0	U	<40.0	U
Cresols (as m,p,o-Cresol)	200000	ug/L	<80.0	U	<80.0	U
Hexachlorobenzene	130	ug/L	<40.0	U	<40.0	U
Hexachlorobutadiene	500	ug/L	<40.0	U	<40.0	U
Hexachloroethane	3000	ug/L	<40.0	U	<40.0	U
Nitrobenzene	2000	ug/L	<40.0	U	<40.0	U
Pentachlorophenol	100000	ug/L	<80.0	U	<80.0	U
Pyridine	5000	ug/L	<40.0	U	<40.0	U
<b>Legend:</b>						
<b>Bold</b>	Detected					
U	Not detected above method detection limit					
ND	Non detected					
NS	Not sampled					
SU	Standard units					
PPM	Parts per million					
mg/l	Miligrams per liter					
ug/l	Micrograms per liter					
D	Sample or matrix spike duplicate results above relative percent difference limit					
L	Laboratory control sample recovery outside accepted QC limits					
M	Matrix spike recoveries outside QC limits. Matrix bias indicated					

## Attachment A – Laboratory Reports – Exhaust Tunnel Water





**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*Analytical Report For*  
**Inventum Engineering, P.C.**

*For Lab Project ID*

**222327**

*Referencing*

**Battery Tunnel**

*Prepared*

**Thursday, June 2, 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.***

*Emily Faumen*

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

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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 Thursday, June 2, 2022*

Page 1 of 64

**Lab Project ID: 222327**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Tunnel

**Sample Identifier:** Battery-Tunnel-05172022

**Lab Sample ID:** 222327-01

**Date Sampled:** 5/17/2022 14:30

**Matrix:** Water

**Date Received** 5/19/2022

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 2.00	ug/L		5/24/2022 15:43
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/24/2022 15:43
1,1,2-Trichloroethane	< 2.00	ug/L		5/24/2022 15:43
1,1-Dichloroethane	< 2.00	ug/L		5/24/2022 15:43
1,1-Dichloroethene	< 2.00	ug/L		5/24/2022 15:43
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/24/2022 15:43
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/24/2022 15:43
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/24/2022 15:43
1,2-Dibromoethane	< 2.00	ug/L		5/24/2022 15:43
1,2-Dichlorobenzene	< 2.00	ug/L		5/24/2022 15:43
1,2-Dichloroethane	< 2.00	ug/L		5/24/2022 15:43
1,2-Dichloropropane	< 2.00	ug/L		5/24/2022 15:43
1,3-Dichlorobenzene	< 2.00	ug/L		5/24/2022 15:43
1,4-Dichlorobenzene	< 2.00	ug/L		5/24/2022 15:43
1,4-Dioxane	< 10.0	ug/L		5/24/2022 15:43
2-Butanone	< 10.0	ug/L		5/24/2022 15:43
2-Hexanone	< 5.00	ug/L		5/24/2022 15:43
4-Methyl-2-pentanone	< 5.00	ug/L		5/24/2022 15:43
Acetone	< 10.0	ug/L		5/24/2022 15:43
Benzene	<b>2.17</b>	ug/L		5/24/2022 15:43
Bromochloromethane	< 5.00	ug/L		5/24/2022 15:43
Bromodichloromethane	< 2.00	ug/L		5/24/2022 15:43
Bromoform	< 5.00	ug/L		5/24/2022 15:43
Bromomethane	< 2.00	ug/L		5/24/2022 15:43
Carbon disulfide	< 2.00	ug/L		5/24/2022 15:43
Carbon Tetrachloride	< 2.00	ug/L		5/24/2022 15:43
Chlorobenzene	< 2.00	ug/L		5/24/2022 15:43
Chloroethane	< 2.00	ug/L		5/24/2022 15:43

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Lab Project ID: 222327

Client: Inventum Engineering, P.C.

Project Reference: Battery Tunnel

Sample Identifier: Battery-Tunnel-05172022

Lab Sample ID: 222327-01

Date Sampled: 5/17/2022 14:30

Matrix: Water

Date Received 5/19/2022

Chloroform	< 2.00	ug/L	5/24/2022 15:43
Chloromethane	< 2.00	ug/L	5/24/2022 15:43
cis-1,2-Dichloroethene	< 2.00	ug/L	5/24/2022 15:43
cis-1,3-Dichloropropene	< 2.00	ug/L	5/24/2022 15:43
Cyclohexane	< 10.0	ug/L	5/24/2022 15:43
Dibromochloromethane	< 2.00	ug/L	5/24/2022 15:43
Dichlorodifluoromethane	< 2.00	ug/L	5/24/2022 15:43
Ethylbenzene	< 2.00	ug/L	5/24/2022 15:43
Freon 113	< 2.00	ug/L	5/24/2022 15:43
Isopropylbenzene	< 2.00	ug/L	5/24/2022 15:43
m,p-Xylene	< 2.00	ug/L	5/24/2022 15:43
Methyl acetate	< 2.00	ug/L	5/24/2022 15:43
Methyl tert-butyl Ether	< 2.00	ug/L	5/24/2022 15:43
Methylcyclohexane	< 2.00	ug/L	5/24/2022 15:43
Methylene chloride	< 5.00	ug/L	5/24/2022 15:43
o-Xylene	< 2.00	ug/L	5/24/2022 15:43
Styrene	< 5.00	ug/L	5/24/2022 15:43
Tetrachloroethene	< 2.00	ug/L	5/24/2022 15:43
Toluene	< 2.00	ug/L	5/24/2022 15:43
trans-1,2-Dichloroethene	< 2.00	ug/L	5/24/2022 15:43
trans-1,3-Dichloropropene	< 2.00	ug/L	5/24/2022 15:43
Trichloroethene	< 2.00	ug/L	5/24/2022 15:43
Trichlorofluoromethane	< 2.00	ug/L	5/24/2022 15:43
Vinyl chloride	< 2.00	ug/L	5/24/2022 15:43

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Report Prepared Thursday, June 2, 2022

Page 3 of 64



**Lab Project ID: 222327**

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

**Project Reference:** Battery Tunnel

---

**Sample Identifier:** Battery-Tunnel-05172022

**Lab Sample ID:** 222327-01

**Date Sampled:** 5/17/2022 14:30

**Matrix:** Water

**Date Received** 5/19/2022

---

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>	
1,2-Dichloroethane-d4	<b>79.2</b>	81.1 - 136	*	5/24/2022	15:43
4-Bromofluorobenzene	<b>87.3</b>	75.8 - 132		5/24/2022	15:43
Pentafluorobenzene	<b>109</b>	82 - 132		5/24/2022	15:43
Toluene-D8	<b>102</b>	64.6 - 137		5/24/2022	15:43

**Method Reference(s):** EPA 8260C

EPA 5030C

**Data File:** z09429.D



***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Tunnel  
**Lab Project ID:** 222327  
**Matrix:** Water

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	<2.00	ug/L		5/24/2022 14:57
1,1,2,2-Tetrachloroethane	<2.00	ug/L		5/24/2022 14:57
1,1,2-Trichloroethane	<2.00	ug/L		5/24/2022 14:57
1,1-Dichloroethane	<2.00	ug/L		5/24/2022 14:57
1,1-Dichloroethene	<2.00	ug/L		5/24/2022 14:57
1,2,3-Trichlorobenzene	<5.00	ug/L		5/24/2022 14:57
1,2,4-Trichlorobenzene	<5.00	ug/L		5/24/2022 14:57
1,2-Dibromo-3-Chloropropane	<10.0	ug/L		5/24/2022 14:57
1,2-Dibromoethane	<2.00	ug/L		5/24/2022 14:57
1,2-Dichlorobenzene	<2.00	ug/L		5/24/2022 14:57
1,2-Dichloroethane	<2.00	ug/L		5/24/2022 14:57
1,2-Dichloropropane	<2.00	ug/L		5/24/2022 14:57
1,3-Dichlorobenzene	<2.00	ug/L		5/24/2022 14:57
1,4-Dichlorobenzene	<2.00	ug/L		5/24/2022 14:57
1,4-Dioxane	<10.0	ug/L		5/24/2022 14:57
2-Butanone	<10.0	ug/L		5/24/2022 14:57
2-Hexanone	<5.00	ug/L		5/24/2022 14:57
4-Methyl-2-pentanone	<5.00	ug/L		5/24/2022 14:57
Acetone	<10.0	ug/L		5/24/2022 14:57
Benzene	<1.00	ug/L		5/24/2022 14:57
Bromochloromethane	<5.00	ug/L		5/24/2022 14:57
Bromodichloromethane	<2.00	ug/L		5/24/2022 14:57
Bromoform	<5.00	ug/L		5/24/2022 14:57
Bromomethane	<2.00	ug/L		5/24/2022 14:57
Carbon disulfide	<2.00	ug/L		5/24/2022 14:57
Carbon Tetrachloride	<2.00	ug/L		5/24/2022 14:57
Chlorobenzene	<2.00	ug/L		5/24/2022 14:57

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.



### Method Blank Report

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Tunnel  
**Lab Project ID:** 222327  
**Matrix:** Water

#### *Volatile Organics*

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Chloroethane	<2.00	ug/L		5/24/2022 14:57
Chloroform	<2.00	ug/L		5/24/2022 14:57
Chloromethane	<2.00	ug/L		5/24/2022 14:57
cis-1,2-Dichloroethene	<2.00	ug/L		5/24/2022 14:57
cis-1,3-Dichloropropene	<2.00	ug/L		5/24/2022 14:57
Cyclohexane	<10.0	ug/L		5/24/2022 14:57
Dibromochloromethane	<2.00	ug/L		5/24/2022 14:57
Dichlorodifluoromethane	<2.00	ug/L		5/24/2022 14:57
Ethylbenzene	<2.00	ug/L		5/24/2022 14:57
Freon 113	<2.00	ug/L		5/24/2022 14:57
Isopropylbenzene	<2.00	ug/L		5/24/2022 14:57
m,p-Xylene	<2.00	ug/L		5/24/2022 14:57
Methyl acetate	<2.00	ug/L		5/24/2022 14:57
Methyl tert-butyl Ether	<2.00	ug/L		5/24/2022 14:57
Methylcyclohexane	<2.00	ug/L		5/24/2022 14:57
Methylene chloride	<5.00	ug/L		5/24/2022 14:57
o-Xylene	<2.00	ug/L		5/24/2022 14:57
Styrene	<5.00	ug/L		5/24/2022 14:57
Tetrachloroethene	<2.00	ug/L		5/24/2022 14:57
Toluene	<2.00	ug/L		5/24/2022 14:57
trans-1,2-Dichloroethene	<2.00	ug/L		5/24/2022 14:57
trans-1,3-Dichloropropene	<2.00	ug/L		5/24/2022 14:57
Trichloroethene	<2.00	ug/L		5/24/2022 14:57
Trichlorofluoromethane	<2.00	ug/L		5/24/2022 14:57
Vinyl chloride	<2.00	ug/L		5/24/2022 14:57

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.



***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Tunnel  
**Lab Project ID:** 222327  
**Matrix:** Water

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>	
<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>	
1,2-Dichloroethane-d4	99.7	81.1 - 136		5/24/2022	14:57
4-Bromofluorobenzene	99.5	75.8 - 132		5/24/2022	14:57
Pentafluorobenzene	103	82 - 132		5/24/2022	14:57
Toluene-D8	106	64.6 - 137		5/24/2022	14:57
<b>Method Reference(s):</b> EPA 8260C					
EPA 5030C					
<b>Data File:</b> z09427.D					
<b>QC Batch ID:</b> voaw220524					
<b>QC Number:</b> Blk 1					



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

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

**Project Reference:** Battery Tunnel

**Lab Project ID:** 222327

**Matrix:** Water

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	20.0	ug/L	18.9	94.4	80 - 132		5/24/2022
1,1,2,2-Tetrachloroethane	20.0	ug/L	16.3	81.5	23.6 - 185		5/24/2022
1,1,2-Trichloroethane	20.0	ug/L	15.6	78.2	62.9 - 138		5/24/2022
1,1-Dichloroethane	20.0	ug/L	17.9	89.3	79.7 - 124		5/24/2022
1,1-Dichloroethene	20.0	ug/L	18.8	94.0	65.5 - 116		5/24/2022
1,2-Dichlorobenzene	20.0	ug/L	18.6	93.0	59 - 126		5/24/2022
1,2-Dichloroethane	20.0	ug/L	16.7	83.4	78.3 - 122		5/24/2022
1,2-Dichloropropane	20.0	ug/L	17.9	89.4	75.9 - 115		5/24/2022
1,3-Dichlorobenzene	20.0	ug/L	19.1	95.3	66.4 - 109		5/24/2022
1,4-Dichlorobenzene	20.0	ug/L	18.6	92.9	66.4 - 110		5/24/2022
Benzene	20.0	ug/L	18.6	92.8	81.6 - 114		5/24/2022
Bromodichloromethane	20.0	ug/L	17.2	85.9	77.8 - 116		5/24/2022
Bromoform	20.0	ug/L	14.9	74.3	47.9 - 153		5/24/2022
Bromomethane	20.0	ug/L	18.1	90.5	50.9 - 166		5/24/2022
Carbon Tetrachloride	20.0	ug/L	19.0	94.9	76.4 - 129		5/24/2022
Chlorobenzene	20.0	ug/L	19.7	98.6	77.2 - 106		5/24/2022

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.



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

**QC Report for Laboratory Control Sample**

**Client:**

Inventum Engineering, P.C.

**Project Reference:**

Battery Tunnel

**Lab Project ID:**

222327

**Matrix:**

Water

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chloroethane	20.0	ug/L	21.3	106	49.9 - 159		5/24/2022
Chloroform	20.0	ug/L	17.9	89.3	84.5 - 122		5/24/2022
Chloromethane	20.0	ug/L	19.1	95.5	42.2 - 174		5/24/2022
cis-1,3-Dichloropropene	20.0	ug/L	16.3	81.3	68.8 - 122		5/24/2022
Dibromochloromethane	20.0	ug/L	15.8	78.8	65.7 - 133		5/24/2022
Ethylbenzene	20.0	ug/L	19.6	98.2	72.1 - 110		5/24/2022
Methylene chloride	20.0	ug/L	18.8	94.0	52.5 - 139		5/24/2022
Tetrachloroethene	20.0	ug/L	18.5	92.4	64.4 - 130		5/24/2022
Toluene	20.0	ug/L	19.0	94.9	62.9 - 125		5/24/2022
trans-1,2-Dichloroethene	20.0	ug/L	18.7	93.7	73.9 - 120		5/24/2022
trans-1,3-Dichloropropene	20.0	ug/L	15.6	78.2	57.1 - 131		5/24/2022
Trichloroethene	20.0	ug/L	18.9	94.6	73.4 - 122		5/24/2022
Trichlorofluoromethane	20.0	ug/L	19.7	98.4	62.2 - 147		5/24/2022
Vinyl chloride	20.0	ug/L	20.5	103	50.9 - 164		5/24/2022

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.



**QC Report for Laboratory Control Sample**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Tunnel  
**Lab Project ID:** 222327  
**Matrix:** Water

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
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**Method Reference(s):** EPA 8260C  
EPA 5030C  
**Data File:** z09426.D  
**QC Number:** LCS 1  
**QC Batch ID:** voaaw220524

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.



## 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.*

*"H" = Denotes a parameter analyzed outside of holding time.*

*"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.

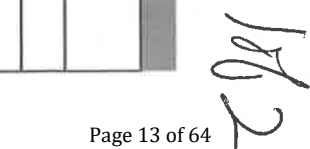
LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders 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.

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.

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## Chain of Custody Supplement

Client: InventumCompleted by: MolepailLab Project ID: 222327Date: 5/19/22

### Sample Condition Requirements

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

Condition	<i>NELAC compliance with the sample condition requirements upon receipt</i>		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Transferred to method-compliant container	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Preservation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>5°C in cool</u>		
Compliant Sample Quantity/Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>500A, metals, TCN, PCB, Ammonia, Asbestos sent directly to sub lab</u>		



## ANALYTICAL REPORT

Lab Number:	L2226133
Client:	Paradigm Environmental Services 179 Lake Avenue Rochester, NY 14608
ATTN:	Jane Daloia
Phone:	(585) 647-2530
Project Name:	BATTERY TUNNEL
Project Number:	BATTERY TUNNEL
Report Date:	05/25/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

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

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2226133-01	BATTERY-TUNNEL-05172022	WATER	Not Specified	05/17/22 14:30	05/17/22



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

### Case Narrative

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

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

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

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

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

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

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**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

### Case Narrative (continued)

#### Report Submission

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

#### Semivolatile Organics

The WG1641207-2/-3 LCS/LCSD recoveries, associated with L2226133-01, are below the acceptance criteria for benzoic acid (3%/6%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

#### Total Metals

The WG1641852-3 MS recovery, performed on L2226133-01, is outside the acceptance criteria for zinc (74%). A post digestion spike was performed and yielded an unacceptable recovery for zinc (72%). The serial dilution recovery was acceptable; therefore, the matrix test passed for the sample matrix.

The WG1641852-3 MS recoveries for calcium (0%), iron (0%), magnesium (52%), manganese (68%), potassium (10%) and sodium (0%), performed on L2226133-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

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

Authorized Signature:

*Tiffani Morrissey* - Tiffani Morrissey

Title: Technical Director/Representative

Date: 05/25/22

# ORGANICS

# SEMIVOLATILES

**Project Name:** BATTERY TUNNEL**Lab Number:** L2226133**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**SAMPLE RESULTS**

Lab ID: L2226133-01  
 Client ID: BATTERY-TUNNEL-05172022  
 Sample Location: Not Specified

Date Collected: 05/17/22 14:30  
 Date Received: 05/17/22  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8270D  
 Analytical Date: 05/22/22 12:36  
 Analyst: CMM

Extraction Method: EPA 3510C  
 Extraction Date: 05/21/22 08:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	1.9	1.0	1
1,2,4-Trichlorobenzene	ND		ug/l	4.8	0.56	1
Hexachlorobenzene	ND		ug/l	1.9	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	1.9	0.85	1
2-Chloronaphthalene	ND		ug/l	1.9	0.52	1
1,2-Dichlorobenzene	ND		ug/l	1.9	0.61	1
1,3-Dichlorobenzene	ND		ug/l	1.9	0.62	1
1,4-Dichlorobenzene	ND		ug/l	1.9	0.44	1
3,3'-Dichlorobenzidine	ND		ug/l	4.8	0.82	1
2,4-Dinitrotoluene	ND		ug/l	4.8	0.37	1
2,6-Dinitrotoluene	ND		ug/l	4.8	0.35	1
Fluoranthene	5.9		ug/l	1.9	0.63	1
4-Chlorophenyl phenyl ether	ND		ug/l	1.9	0.76	1
4-Bromophenyl phenyl ether	ND		ug/l	1.9	0.61	1
Bis(2-chloroisopropyl)ether	ND		ug/l	1.9	1.7	1
Bis(2-chloroethoxy)methane	ND		ug/l	4.8	1.4	1
Hexachlorobutadiene	ND		ug/l	1.9	0.58	1
Hexachlorocyclopentadiene	ND		ug/l	19	0.58	1
Hexachloroethane	ND		ug/l	1.9	0.42	1
Isophorone	ND		ug/l	4.8	0.63	1
Naphthalene	11.		ug/l	1.9	0.64	1
Nitrobenzene	ND		ug/l	1.9	0.63	1
NDPA/DPA	ND		ug/l	1.9	0.62	1
n-Nitrosodi-n-propylamine	ND		ug/l	4.8	0.74	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.9	1.4	1
Butyl benzyl phthalate	ND		ug/l	4.8	2.1	1
Di-n-butylphthalate	ND		ug/l	4.8	0.56	1
Di-n-octylphthalate	ND		ug/l	4.8	2.3	1

**Project Name:** BATTERY TUNNEL**Lab Number:** L2226133**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**SAMPLE RESULTS**

Lab ID: L2226133-01

Date Collected: 05/17/22 14:30

Client ID: BATTERY-TUNNEL-05172022

Date Received: 05/17/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/l	4.8	4.1	1
Dimethyl phthalate	ND		ug/l	4.8	4.3	1
Benzo(a)anthracene	3.2		ug/l	1.9	0.74	1
Benzo(a)pyrene	1.4	J	ug/l	1.9	0.43	1
Benzo(b)fluoranthene	3.4		ug/l	1.9	0.78	1
Benzo(k)fluoranthene	1.1	J	ug/l	1.9	0.78	1
Chrysene	4.2		ug/l	1.9	0.80	1
Acenaphthylene	0.90	J	ug/l	1.9	0.57	1
Anthracene	0.97	J	ug/l	1.9	0.76	1
Benzo(ghi)perylene	1.3	J	ug/l	1.9	0.74	1
Fluorene	ND		ug/l	1.9	1.0	1
Phenanthrene	4.1		ug/l	1.9	0.95	1
Dibenzo(a,h)anthracene	0.45	J	ug/l	1.9	0.43	1
Indeno(1,2,3-cd)pyrene	1.4	J	ug/l	1.9	0.91	1
Pyrene	4.0		ug/l	1.9	0.68	1
Biphenyl	ND		ug/l	1.9	0.61	1
4-Chloroaniline	ND		ug/l	4.8	0.62	1
2-Nitroaniline	ND		ug/l	4.8	0.50	1
3-Nitroaniline	ND		ug/l	4.8	0.55	1
4-Nitroaniline	ND		ug/l	4.8	0.56	1
Dibenzofuran	1.1	J	ug/l	1.9	0.79	1
2-Methylnaphthalene	2.0		ug/l	1.9	0.65	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	9.6	0.60	1
Acetophenone	1.4	J	ug/l	4.8	0.94	1
2,4,6-Trichlorophenol	ND		ug/l	4.8	0.48	1
p-Chloro-m-cresol	ND		ug/l	1.9	0.39	1
2-Chlorophenol	ND		ug/l	1.9	0.39	1
2,4-Dichlorophenol	ND		ug/l	4.8	0.51	1
2,4-Dimethylphenol	ND		ug/l	4.8	1.0	1
2-Nitrophenol	ND		ug/l	9.6	0.44	1
4-Nitrophenol	ND		ug/l	9.6	1.1	1
2,4-Dinitrophenol	ND		ug/l	19	3.4	1
4,6-Dinitro-o-cresol	ND		ug/l	9.6	5.2	1
Pentachlorophenol	ND		ug/l	9.6	1.9	1
Phenol	ND		ug/l	4.8	1.2	1
2-Methylphenol	ND		ug/l	4.8	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	4.8	0.53	1

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Client ID: BATTERY-TUNNEL-05172022

Date Received: 05/17/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/l	4.8	0.37	1
Benzoic Acid	ND		ug/l	48	12.	1
Benzyl Alcohol	ND		ug/l	1.9	0.67	1
Carbazole	1.1	J	ug/l	1.9	0.73	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	60		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	58		41-149

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 05/22/22 08:58  
**Analyst:** CMM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/21/22 08:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641207-1					
Acenaphthene	ND		ug/l	2.0	1.1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.58
Hexachlorobenzene	ND		ug/l	2.0	0.69
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.88
2-Chloronaphthalene	ND		ug/l	2.0	0.54
1,2-Dichlorobenzene	ND		ug/l	2.0	0.64
1,3-Dichlorobenzene	ND		ug/l	2.0	0.64
1,4-Dichlorobenzene	ND		ug/l	2.0	0.46
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.85
2,4-Dinitrotoluene	ND		ug/l	5.0	0.38
2,6-Dinitrotoluene	ND		ug/l	5.0	0.37
Fluoranthene	ND		ug/l	2.0	0.65
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.80
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.63
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	1.8
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	1.5
Hexachlorobutadiene	ND		ug/l	2.0	0.60
Hexachlorocyclopentadiene	ND		ug/l	20	0.61
Hexachloroethane	ND		ug/l	2.0	0.44
Isophorone	ND		ug/l	5.0	0.66
Naphthalene	ND		ug/l	2.0	0.67
Nitrobenzene	ND		ug/l	2.0	0.66
NDPA/DPA	ND		ug/l	2.0	0.65
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.77
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	2.2
Di-n-butylphthalate	ND		ug/l	5.0	0.58
Di-n-octylphthalate	ND		ug/l	5.0	2.4
Diethyl phthalate	ND		ug/l	5.0	4.3

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**Batch Quality Control**

Analytical Method: 1,8270D  
Analytical Date: 05/22/22 08:58  
Analyst: CMM

Extraction Method: EPA 3510C  
Extraction Date: 05/21/22 08:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641207-1					
Dimethyl phthalate	ND		ug/l	5.0	4.4
Benzo(a)anthracene	ND		ug/l	2.0	0.77
Benzo(a)pyrene	ND		ug/l	2.0	0.45
Benzo(b)fluoranthene	ND		ug/l	2.0	0.81
Benzo(k)fluoranthene	ND		ug/l	2.0	0.82
Chrysene	ND		ug/l	2.0	0.83
Acenaphthylene	ND		ug/l	2.0	0.59
Anthracene	ND		ug/l	2.0	0.79
Benzo(ghi)perylene	ND		ug/l	2.0	0.77
Fluorene	ND		ug/l	2.0	1.0
Phenanthrene	ND		ug/l	2.0	0.99
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.45
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.94
Pyrene	ND		ug/l	2.0	0.70
Biphenyl	ND		ug/l	2.0	0.64
4-Chloroaniline	ND		ug/l	5.0	0.65
2-Nitroaniline	ND		ug/l	5.0	0.52
3-Nitroaniline	ND		ug/l	5.0	0.57
4-Nitroaniline	ND		ug/l	5.0	0.58
Dibenzofuran	ND		ug/l	2.0	0.82
2-Methylnaphthalene	ND		ug/l	2.0	0.68
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.62
Acetophenone	ND		ug/l	5.0	0.98
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.49
p-Chloro-m-cresol	ND		ug/l	2.0	0.41
2-Chlorophenol	ND		ug/l	2.0	0.40
2,4-Dichlorophenol	ND		ug/l	5.0	0.53
2,4-Dimethylphenol	ND		ug/l	5.0	1.1
2-Nitrophenol	ND		ug/l	10	0.46

**Project Name:** BATTERY TUNNEL  
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**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 05/22/22 08:58  
**Analyst:** CMM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/21/22 08:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641207-1					
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	3.6
4,6-Dinitro-o-cresol	ND		ug/l	10	5.4
Pentachlorophenol	ND		ug/l	10	2.0
Phenol	ND		ug/l	5.0	1.3
2-Methylphenol	ND		ug/l	5.0	1.1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.55
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.38
Benzoic Acid	ND		ug/l	50	13.
Benzyl Alcohol	ND		ug/l	2.0	0.70
Carbazole	ND		ug/l	2.0	0.76

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	61		15-120
2,4,6-Tribromophenol	67		10-120
4-Terphenyl-d14	60		41-149

Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		Qual	LCSD		Qual	%Recovery	RPD	Qual	RPD Limits
	%Recovery			%Recovery			Limits			
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641207-2 WG1641207-3										
Acenaphthene	64			69		37-111	8			30
1,2,4-Trichlorobenzene	57			61		39-98	7			30
Hexachlorobenzene	64			70		40-140	9			30
Bis(2-chloroethyl)ether	67			72		40-140	7			30
2-Chloronaphthalene	62			69		40-140	11			30
1,2-Dichlorobenzene	58			62		40-140	7			30
1,3-Dichlorobenzene	56			61		40-140	9			30
1,4-Dichlorobenzene	57			60		36-97	5			30
3,3'-Dichlorobenzidine	54			54		40-140	0			30
2,4-Dinitrotoluene	68			74		48-143	8			30
2,6-Dinitrotoluene	71			79		40-140	11			30
Fluoranthene	70			78		40-140	11			30
4-Chlorophenyl phenyl ether	63			67		40-140	6			30
4-Bromophenyl phenyl ether	65			71		40-140	9			30
Bis(2-chloroisopropyl)ether	57			62		40-140	8			30
Bis(2-chloroethoxy)methane	71			77		40-140	8			30
Hexachlorobutadiene	56			60		40-140	7			30
Hexachlorocyclopentadiene	33		Q	36		40-140	9			30
Hexachloroethane	59			64		40-140	8			30
Isophorone	72			78		40-140	8			30
Naphthalene	62			68		40-140	9			30
Nitrobenzene	72			80		40-140	11			30
NDPA/DPA	67			73		40-140	9			30



Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641207-2 WG1641207-3								
n-Nitrosodi-n-propylamine	73		79		29-132		8	30
Bis(2-ethylhexyl)phthalate	72		79		40-140		9	30
Butyl benzyl phthalate	74		81		40-140		9	30
Di-n-butylphthalate	74		80		40-140		8	30
Di-n-octylphthalate	73		81		40-140		10	30
Diethyl phthalate	71		77		40-140		8	30
Dimethyl phthalate	68		75		40-140		10	30
Benzo(a)anthracene	68		75		40-140		10	30
Benzo(a)pyrene	63		70		40-140		11	30
Benzo(b)fluoranthene	65		72		40-140		10	30
Benzo(k)fluoranthene	64		71		40-140		10	30
Chrysene	67		74		40-140		10	30
Acenaphthylene	67		75		45-123		11	30
Anthracene	68		73		40-140		7	30
Benzo(ghi)perylene	70		76		40-140		8	30
Fluorene	67		74		40-140		10	30
Phenanthrene	68		73		40-140		7	30
Dibenzo(a,h)anthracene	68		74		40-140		8	30
Indeno(1,2,3-cd)pyrene	71		79		40-140		11	30
Pyrene	70		76		26-127		8	30
Biphenyl	63		68		40-140		8	30
4-Chloroaniline	69		72		40-140		4	30
2-Nitroaniline	70		79		52-143		12	30



Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		Qual	LCSD		Qual	%Recovery		RPD	Qual	RPD	
	%Recovery			%Recovery			Limits				Limits	
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641207-2 WG1641207-3												
3-Nitroaniline	63			63			25-145		0		30	
4-Nitroaniline	62			67			51-143		8		30	
Dibenzofuran	66			72			40-140		9		30	
2-Methylnaphthalene	64			70			40-140		9		30	
1,2,4,5-Tetrachlorobenzene	64			70			2-134		9		30	
Acetophenone	68			75			39-129		10		30	
2,4,6-Trichlorophenol	74			80			30-130		8		30	
p-Chloro-m-cresol	73			82			23-97		12		30	
2-Chlorophenol	63			70			27-123		11		30	
2,4-Dichlorophenol	72			78			30-130		8		30	
2,4-Dimethylphenol	71			78			30-130		9		30	
2-Nitrophenol	67			74			30-130		10		30	
4-Nitrophenol	49			53			10-80		8		30	
2,4-Dinitrophenol	47			54			20-130		14		30	
4,6-Dinitro-o-cresol	66			72			20-164		9		30	
Pentachlorophenol	60			67			9-103		11		30	
Phenol	34			37			12-110		8		30	
2-Methylphenol	62			68			30-130		9		30	
3-Methylphenol/4-Methylphenol	65			71			30-130		9		30	
2,4,5-Trichlorophenol	73			82			30-130		12		30	
Benzoic Acid	3	Q		6	Q		10-164		70	Q	30	
Benzyl Alcohol	64			70			26-116		9		30	
Carbazole	71			78			55-144		9		30	



Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Semi-volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641207-2 WG1641207-3								

Surrogate	LCS		LCSD		Acceptance Criteria	
	%Recovery	Qual	%Recovery	Qual		
2-Fluorophenol			45		49	21-120
Phenol-d6			32		36	10-120
Nitrobenzene-d5			69		76	23-120
2-Fluorobiphenyl			63		70	15-120
2,4,6-Tribromophenol			69		77	10-120
4-Terphenyl-d14			60		65	41-149



# PCBS

**Project Name:** BATTERY TUNNEL**Lab Number:** L2226133**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**SAMPLE RESULTS**

Lab ID: L2226133-01  
 Client ID: BATTERY-TUNNEL-05172022  
 Sample Location: Not Specified

Date Collected: 05/17/22 14:30  
 Date Received: 05/17/22  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8082A  
 Analytical Date: 05/22/22 15:03  
 Analyst: WR

Extraction Method: EPA 3510C  
 Extraction Date: 05/21/22 08:11  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 05/21/22  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 05/21/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.013	1	A
Aroclor 1221	ND		ug/l	0.083	0.018	1	A
Aroclor 1232	ND		ug/l	0.083	0.038	1	A
Aroclor 1242	ND		ug/l	0.083	0.030	1	A
Aroclor 1248	ND		ug/l	0.083	0.038	1	A
Aroclor 1254	ND		ug/l	0.083	0.014	1	A
Aroclor 1260	ND		ug/l	0.083	0.029	1	A
Aroclor 1262	ND		ug/l	0.083	0.028	1	A
Aroclor 1268	ND		ug/l	0.083	0.026	1	A
PCBs, Total	ND		ug/l	0.083	0.013	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	57		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	64		30-150	A

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**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8082A  
 Analytical Date: 05/22/22 14:39  
 Analyst: WR

Extraction Method: EPA 3510C  
 Extraction Date: 05/21/22 08:11  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 05/21/22  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 05/21/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1641211-1						
Aroclor 1016	ND		ug/l	0.083	0.013	A
Aroclor 1221	ND		ug/l	0.083	0.018	A
Aroclor 1232	ND		ug/l	0.083	0.038	A
Aroclor 1242	ND		ug/l	0.083	0.030	A
Aroclor 1248	ND		ug/l	0.083	0.038	A
Aroclor 1254	ND		ug/l	0.083	0.014	A
Aroclor 1260	ND		ug/l	0.083	0.029	A
Aroclor 1262	ND		ug/l	0.083	0.028	A
Aroclor 1268	ND		ug/l	0.083	0.026	A
PCBs, Total	ND		ug/l	0.083	0.013	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	67		30-150	B
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	72		30-150	A

# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Parameter	LCS		LCSD		%Recovery Limits	RPD		RPD Limits	Column
	%Recovery	Qual	%Recovery	Qual		RPD	Qual		
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1641211-2 WG1641211-3									
Aroclor 1016	68		70		40-140	3		50	A
Aroclor 1260	76		77		40-140	2		50	A

Surrogate	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	64		63		30-150	B
Decachlorobiphenyl	70		71		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		64		30-150	A
Decachlorobiphenyl	74		77		30-150	A



## METALS

**Project Name:** BATTERY TUNNEL**Lab Number:** L2226133**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**SAMPLE RESULTS**

Lab ID: L2226133-01

Date Collected: 05/17/22 14:30

Client ID: BATTERY-TUNNEL-05172022

Date Received: 05/17/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8.72		mg/l	0.100	0.032	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Antimony, Total	ND		mg/l	0.050	0.007	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Arsenic, Total	0.041		mg/l	0.005	0.002	1	05/23/22 17:42	05/24/22 19:38	EPA 3005A	19,200.7	EW
Barium, Total	0.110		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Beryllium, Total	ND		mg/l	0.005	0.001	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Cadmium, Total	0.017		mg/l	0.005	0.001	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Calcium, Total	671		mg/l	1.00	0.350	10	05/23/22 17:42	05/24/22 19:55	EPA 3005A	19,200.7	EW
Chromium, Total	0.140		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Cobalt, Total	0.026		mg/l	0.020	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Copper, Total	0.100		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Iron, Total	31.7		mg/l	0.050	0.009	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Lead, Total	0.257		mg/l	0.010	0.003	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Magnesium, Total	65.1		mg/l	0.100	0.015	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Manganese, Total	3.01		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Mercury, Total	0.00400		mg/l	0.00020	0.00009	1	05/23/22 22:24	05/24/22 07:45	EPA 245.1	3,245.1	DMB
Nickel, Total	0.234		mg/l	0.025	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Potassium, Total	232		mg/l	2.50	0.237	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Selenium, Total	0.013		mg/l	0.010	0.004	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Silver, Total	ND		mg/l	0.007	0.003	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Sodium, Total	452		mg/l	2.00	0.120	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Thallium, Total	0.008	J	mg/l	0.020	0.003	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Vanadium, Total	0.018		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW
Zinc, Total	1.79		mg/l	0.050	0.002	1	05/23/22 17:42	05/24/22 17:04	EPA 3005A	19,200.7	EW



Project Name: BATTERY TUNNEL

Lab Number: L2226133

Project Number: BATTERY TUNNEL

Report Date: 05/25/22

## Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1641734-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	05/23/22 22:24	05/24/22 06:52	3,245.1	DMB

### Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1641852-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Antimony, Total	ND		mg/l	0.050	0.007	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Arsenic, Total	ND		mg/l	0.005	0.002	1	05/23/22 17:42	05/24/22 18:48	19,200.7	EW
Barium, Total	ND		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Beryllium, Total	ND		mg/l	0.005	0.001	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Cadmium, Total	ND		mg/l	0.005	0.001	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Calcium, Total	ND		mg/l	0.100	0.035	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Chromium, Total	ND		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Cobalt, Total	ND		mg/l	0.020	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Copper, Total	ND		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Iron, Total	ND		mg/l	0.050	0.009	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Lead, Total	ND		mg/l	0.010	0.003	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Magnesium, Total	ND		mg/l	0.100	0.015	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Manganese, Total	ND		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Nickel, Total	ND		mg/l	0.025	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Potassium, Total	ND		mg/l	2.50	0.237	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Selenium, Total	ND		mg/l	0.010	0.004	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Silver, Total	ND		mg/l	0.007	0.003	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Sodium, Total	ND		mg/l	2.00	0.120	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Thallium, Total	ND		mg/l	0.020	0.003	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Vanadium, Total	ND		mg/l	0.010	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW
Zinc, Total	ND		mg/l	0.050	0.002	1	05/23/22 17:42	05/24/22 16:50	19,200.7	EW



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

## Method Blank Analysis Batch Quality Control

### Prep Information

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Digestion Method: EPA 3005A

Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		LCSD		%Recovery Limits	RPD		RPD Limits
	%Recovery	Qual	%Recovery	Qual		Qual	Qual	
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641734-2								
Mercury, Total	95		-		85-115		-	



Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS	LCSD	%Recovery Limits	RPD	RPD Limits
	%Recovery	%Recovery			

Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641852-2

Aluminum, Total	104	-	85-115	-		
Antimony, Total	106	-	85-115	-		
Arsenic, Total	112	-	85-115	-		
Barium, Total	102	-	85-115	-		
Beryllium, Total	107	-	85-115	-		
Cadmium, Total	102	-	85-115	-		
Calcium, Total	105	-	85-115	-		
Chromium, Total	102	-	85-115	-		
Cobalt, Total	97	-	85-115	-		
Copper, Total	105	-	85-115	-		
Iron, Total	103	-	85-115	-		
Lead, Total	107	-	85-115	-		
Magnesium, Total	104	-	85-115	-		
Manganese, Total	103	-	85-115	-		
Nickel, Total	100	-	85-115	-		
Potassium, Total	104	-	85-115	-		
Selenium, Total	111	-	85-115	-		
Silver, Total	104	-	85-115	-		
Sodium, Total	106	-	85-115	-		
Thallium, Total	104	-	85-115	-		
Vanadium, Total	104	-	85-115	-		



Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641852-2					
Zinc, Total	102	-	85-115	-	



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Matrix Spike Analysis**  
Batch Quality Control

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD %Recovery	MSD Qual	Recovery Limits	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641734-3    QC Sample: L2226058-01    Client ID: MS Sample										
Mercury, Total	ND	0.005	0.00499	100	-	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641734-5    QC Sample: L2226065-01    Client ID: MS Sample										
Mercury, Total	ND	0.005	0.00483	97	-	-	-	70-130	-	20

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Matrix Spike Analysis  
Batch Quality Control

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641852-3 QC Sample: L2226133-01 Client ID: BATTERY-TUNNEL-05172022									
Aluminum, Total	8.72	2	10.6	94	-	-	75-125	-	20
Antimony, Total	ND	0.5	0.492	98	-	-	75-125	-	20
Arsenic, Total	0.041	0.12	0.179	115	-	-	75-125	-	20
Barium, Total	0.110	2	2.09	99	-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.046	92	-	-	75-125	-	20
Cadmium, Total	0.017	0.053	0.065	90	-	-	75-125	-	20
Calcium, Total	671	10	662	0	Q	-	75-125	-	20
Chromium, Total	0.140	0.2	0.318	89	-	-	75-125	-	20
Cobalt, Total	0.026	0.5	0.466	88	-	-	75-125	-	20
Copper, Total	0.100	0.25	0.354	102	-	-	75-125	-	20
Iron, Total	31.7	1	29.3	0	Q	-	75-125	-	20
Lead, Total	0.257	0.53	0.736	90	-	-	75-125	-	20
Magnesium, Total	65.1	10	70.3	52	Q	-	75-125	-	20
Manganese, Total	3.01	0.5	3.35	68	Q	-	75-125	-	20
Nickel, Total	0.234	0.5	0.668	87	-	-	75-125	-	20
Potassium, Total	232	10	233	10	Q	-	75-125	-	20
Selenium, Total	0.013	0.12	0.148	113	-	-	75-125	-	20
Silver, Total	ND	0.05	0.054	108	-	-	75-125	-	20
Sodium, Total	452	10	430	0	Q	-	75-125	-	20
Thallium, Total	0.0084	0.12	0.102	85	-	-	75-125	-	20
Vanadium, Total	0.018	0.5	0.514	99	-	-	75-125	-	20



**Project Name:** BATTERY TUNNEL

**Project Number:** BATTERY TUNNEL

**Matrix Spike Analysis**  
Batch Quality Control

**Lab Number:** L2226133

**Report Date:** 05/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641852-3    QC Sample: L2226133-01    Client ID: BATTERY-TUNNEL-05172022									
Zinc, Total	1.79	0.5	2.16	74	Q	-	-	75-125	20



**Lab Duplicate Analysis**  
*Batch Quality Control*

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641734-4 QC Sample: L2226058-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641734-6 QC Sample: L2226065-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

### Lab Duplicate Analysis *Batch Quality Control*

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641852-4 QC Sample: L2226133-01 Client ID: BATTERY-TUNNEL-05172022					
Aluminum, Total	8.72	8.58	mg/l	2	20
Antimony, Total	ND	ND	mg/l	NC	20
Barium, Total	0.110	0.108	mg/l	2	20
Beryllium, Total	ND	ND	mg/l	NC	20
Cadmium, Total	0.017	0.017	mg/l	1	20
Chromium, Total	0.140	0.136	mg/l	3	20
Cobalt, Total	0.026	0.026	mg/l	1	20
Copper, Total	0.100	0.099	mg/l	1	20
Iron, Total	31.7	30.7	mg/l	3	20
Lead, Total	0.257	0.252	mg/l	2	20
Magnesium, Total	65.1	64.4	mg/l	1	20
Manganese, Total	3.01	2.98	mg/l	1	20
Nickel, Total	0.234	0.232	mg/l	1	20
Potassium, Total	232	231	mg/l	0	20
Selenium, Total	0.013	0.008J	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Sodium, Total	452	452	mg/l	0	20
Thallium, Total	0.008J	0.007J	mg/l	NC	20
Vanadium, Total	0.018	0.017	mg/l	4	20

Project Name:

BATTERY TUNNEL

Project Number:

BATTERY TUNNEL

Lab Duplicate Analysis

Batch Quality Control

Lab Number:

L2226133

Report Date:

05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641852-4    QC Sample: L2226133-01    Client ID: BATTERY-TUNNEL-05172022					
Zinc, Total	1.79	1.78	mg/l	1	20
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641852-4    QC Sample: L2226133-01    Client ID: BATTERY-TUNNEL-05172022					
Arsenic, Total	0.041	0.039	mg/l	5	20
Total Metals - Mansfield Lab Associated sample(s): 01    QC Batch ID: WG1641852-4    QC Sample: L2226133-01    Client ID: BATTERY-TUNNEL-05172022					
Calcium, Total	671	660	mg/l	2	20



**Project Name:** BATTERY TUNNEL

**Project Number:** BATTERY TUNNEL

**Lab Serial Dilution Analysis**

**Batch Quality Control**

**Lab Number:** L2226133

**Report Date:** 05/25/22

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641852-6 QC Sample: L2226133-01 Client ID: BATTERY-TUNNEL-05172022						
Zinc, Total	1.79	1.97	mg/l	10		20



# **INORGANICS & MISCELLANEOUS**

**Project Name:** BATTERY TUNNEL**Lab Number:** L2226133**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**SAMPLE RESULTS****Lab ID:** L2226133-01**Date Collected:** 05/17/22 14:30**Client ID:** BATTERY-TUNNEL-05172022**Date Received:** 05/17/22**Sample Location:** Not Specified**Field Prep:** Not Specified**Sample Depth:****Matrix:** Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.359		mg/l	0.005	0.001	1	05/24/22 10:50	05/24/22 13:37	1,9010C/9012B	CS
Nitrogen, Ammonia	78.9		mg/l	0.750	0.240	10	05/24/22 16:26	05/24/22 17:58	44,350.1	AT



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1642100-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	05/24/22 16:26	05/24/22 17:24	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1642156-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	05/24/22 10:50	05/24/22 13:23	1,9010C/9012B	CS

Lab Control Sample Analysis  
Batch Quality Control

Project Name: BATTERY TUNNEL  
Project Number: BATTERY TUNNEL

Lab Number: L2226133  
Report Date: 05/25/22

Parameter	LCS		LCSD		%Recovery Limits	RPD		RPD Limits
	%Recovery	Qual	%Recovery	Qual		RPD	Qual	
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1642100-2								
Nitrogen, Ammonia	98		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1642156-2 WG1642156-3								
Cyanide, Total	107		105		85-115	2		20



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Matrix Spike Analysis**  
Batch Quality Control

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG1642100-4    QC Sample: L2224612-03    Client ID: MS Sample										
Nitrogen, Ammonia	0.027J	4	3.36	84	Q	-	-	90-110	-	20
General Chemistry - Westborough Lab Associated sample(s): 01    QC Batch ID: WG1642156-4    WG1642156-5    QC Sample: L2225034-08    Client ID: MS Sample										
Cyanide, Total	ND	0.2	0.213	106	0.102	51	Q	80-120	70	Q    20

**Lab Duplicate Analysis**  
*Batch Quality Control*

**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s) : 01 QC Batch ID: WG1642100-3 QC Sample: L2224612-03 Client ID: DUP Sample						
Nitrogen, Ammonia	0.027J	ND	mg/l	NC		20



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

Serial\_No:05252212:35  
**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**  
**Cooler** A  
**Custody Seal** Absent

Container Information		Initial		Final		Temp		Frozen	
Container ID	Container Type	Cooler	pH	pH	deg C	Pres	Seal	Date/Time	Analysis(*)
L2226133-01A	Plastic 120ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent	NH3-350(28) TCN-9010(14)	NI-U(180),SB-U(180),BA-U(180),AG-U(180),CA-U(180),ZN-U(180),CO-U(180),K-U(180),MG-U(180),FE-U(180),SE-U(180),HG-U(28),CD-U(180),AL-U(180),Mn-U(180),CR-U(180),NA-U(180),BE-U(180),TL-U(180),CU-U(180),AS-U(180),V-U(180),PB-U(180)
L2226133-01B	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		
L2226133-01C	Plastic 250ml HNO3 preserved	A	<2	<2	3.0	Y	Absent		
L2226133-01D	Amber 1000ml unpreserved	A	7	7	3.0	Y	Absent	NYTCL-8082-1200ML(365),NYTCL-8270(7)	
L2226133-01E	Amber 1000ml unpreserved	A	7	7	3.0	Y	Absent	NYTCL-8082-1200ML(365),NYTCL-8270(7)	

\*Values in parentheses indicate holding time in days



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



**Project Name:** BATTERY TUNNEL  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226133  
**Report Date:** 05/25/22

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625/625.1:** alpha-Terpineol

**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

**EPA 522, EPA 537.1.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



11148

PROJECT REFERENCE	ATTN:	Reporting	ATTN:	reporting@paradigmenv.com
	Matrix Codes:			
Battery Tunnel	AQ - Aqueous Liquid	WA - Water	DW - Drinking Water	SD - Solid
	NA - Non-Aqueous Liquid	WG - Groundwater	WW - Wastewater	PT - Paint
			SL - Sludge	WP - Wipe
				CK - Caulk
				OL - Oil
				AR - Air
REQUESTED ANALYSIS				

[illegible]

Turnaround Time	Report Supplements
<p>Availability contingent upon lab approval; additional fees may apply.</p> <p>Standard Turn <input type="checkbox"/></p> <p>10 day <input type="checkbox"/></p> <p>Rush 3 day <input type="checkbox"/></p> <p>Rush 2 day <input type="checkbox"/></p> <p>Rush 1 day <input type="checkbox"/></p> <p>Other <input checked="" type="checkbox"/> <i>5 day rush</i></p> <p><small>please indicate due needed:</small></p>	<p>None Required <input type="checkbox"/></p> <p>Batch QC <input checked="" type="checkbox"/></p> <p>Category A <input type="checkbox"/></p> <p>Category B <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p><small>please indicate package needed:</small></p>
	<p>None Required <input type="checkbox"/></p> <p>Basic EDD <input type="checkbox"/></p> <p>INYSDEC EDD <input checked="" type="checkbox"/></p> <p>Other EDD <input type="checkbox"/></p> <p><small>please indicate EDD needed:</small></p>

Client		Total Cost:	
Sampled By	Date/Time		
Relinquished By	Date/Time		
Received By	Date/Time		
Received @ Lab By	Date/Time		

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.



## CERTIFICATE OF ANALYSIS

**Chain of Custody:** 337651  
**Client:** Paradigm  
**Address:** 179 Lake Avenue  
Rochester, NY 14608

**Job Name:** Not Provided  
**Job Location:** Not Provided  
**Job Number:** Not Provided  
**P.O. Number:** Not Provided

**Date Submitted:** 05/18/2022  
**Date Analyzed:** 05/19/2022  
**Report Date:** 05/19/2022  
**Date Sampled:** 05/17/2022  
**Person Submitting:** N/A

### Summary of Results of Water Borne Asbestos Analysis by TEM - USEPA Method 100.2 and ELAP 198.2

AMA Sample	Client Sample	Sample Type	Collection Date/Time	Sample Aliquot (ml)	Filter Collection (mm <sup>2</sup> )	Filter Area Analyzed (mm <sup>2</sup> )	Sensitivity (MFL)	Fiber Count	Total Fiber Conc. (MFL)	Long Fiber Conc. (MFL)	Comments
337651-1	Battery-Tunnel-	Not Provided	05/17/2022 2:30 pm	0.3	1047.0	0.14	24.9	24.9	NAD	NAD	
05172022									< 92.0	92.0	N/A

**Please Note:** EPA Method 100.2 requires analysis of asbestos fibers with a minimum length of 10 um, which are reported in the long fiber concentration columns. AMA Analytical Services, Inc. also documents asbestos structures between 0.5um and 10um in length. Along with the long fibers these are reported in the total fiber concentration columns. Meets with ELAP 198.2 requirements.

**Limit of Quantitation:** The Limit of Quantitation (LOQ) for this method is equal to four asbestos fibers. If the sample had no asbestos detected (NAD) the mean asbestos concentration is reported as less than the 95% UCL (upper confidence limit), which is 369 % of the analytical sensitivity. If 1 to 3 fibers were detected, the mean asbestos concentration is reported as less than the 95 % UCL. A lower confidence limit (LCL) does not apply (N/A) for samples in which three or fewer asbestos fibers were detected.

**Analytical Sensitivity:** Typical analytical sensitivities for drinking water samples should be < 10 MFL for 'total' asbestos and <0.2 MFL for 'long' asbestos fibers. Analytical sensitivities may be much higher for water samples where the high concentration of suspended particulate requires using small aliquots to make usable sample preparations.

**Method of Analysis:** The method of analysis used is the EPA 100.2.

**Asbestos Types:** Chry = Chrysotile; Amos = Amosite; Croc = Crocidolite; Trem = Tremolite; Actn = Actinolite; Anth = Anthophyllite

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

**Analyst(s):** Erin McCaughey

**Technical Director**  
Andreas Saldivar

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by AHA-LAP or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



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4475 Forbes Blvd. • Lanham, MD 20706  
(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

## CHAIN OF CUSTODY

(Please Refer To This  
Number For Inquiries)

337651

### AMA Client Information:

Client Name: Paradigm

### Submittal Information:

1. Job Name: \_\_\_\_\_

2. Job Location: \_\_\_\_\_

3. Job #: \_\_\_\_\_

4. Contact Person: \_\_\_\_\_

5. Collected by: \_\_\_\_\_

P.O. #: \_\_\_\_\_

Cell: \_\_\_\_\_

Cell: \_\_\_\_\_

1. Client Name: \_\_\_\_\_

2. Address 1: \_\_\_\_\_

3. Address 2: \_\_\_\_\_

4. Billing Email: \_\_\_\_\_

5. Phone #: \_\_\_\_\_

If a TAT is not selected, AMA will assign 5-Day+ by default.

Reports and Invoices provided by Email only.

REPORT TO:

□ Email 1: \_\_\_\_\_

□ Email 2: \_\_\_\_\_

□ Email 3: \_\_\_\_\_

**AFTER HOURS (must be pre-scheduled)**

□ 4 Hours

□ Immediate

□ 24 Hours

□ 4 Hours

□ Same Day (6-8 Hours)

□ 1 Day

□ 2 Day

□ 3 Day

□ 5 Day+

Date Due: 5/12/22

Date Due: 5/12/22

Date Due: 5/12/22

Date Due: 5/12/22

Date Due: 5/12/22

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Results Required By Noon (credit fees may apply)

### Asbestos Analysis

\*PCM Air - Please Indicate Filter Type: \_\_\_\_\_

□ NIOSH 7400 \_\_\_\_\_ (QTY)

\*TEM Air - Please Indicate Filter Type: \_\_\_\_\_

□ AHERA \_\_\_\_\_ (QTY)

□ NIOSH 7402 \_\_\_\_\_ (QTY)

□ Other (specify) \_\_\_\_\_ (QTY)

PLM Bulk

□ EPA 600 - Visual Estimate \_\_\_\_\_ (QTY)

□ EPA Point Count \_\_\_\_\_ (QTY)

□ NY State Friable 198.1 \_\_\_\_\_ (QTY)

□ Gray Reduction ELAP 198.6 \_\_\_\_\_ (QTY)

□ Other (specify) \_\_\_\_\_ (QTY)

MISC

□ Asbestos Soil PLM \_\_\_\_\_ (Qual) PLM \_\_\_\_\_ (Qual) PLM/TEM \_\_\_\_\_ (Qual) PLM/TEM \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

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□ All samples received in good condition unless otherwise noted.

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□ All samples received in good condition unless otherwise noted.

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□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

### TEM Bulk

□ ELAP 198.4/Chaffield \_\_\_\_\_ (QTY)

□ NY State PLM/TEM \_\_\_\_\_ (QTY)

□ Residual Ash \_\_\_\_\_ (QTY)

□ Vermiculite \_\_\_\_\_ (QTY)

TEM Dust\*

□ Qual. (pres/abs) Vacuum/Dust \_\_\_\_\_ (QTY)

□ Quan. (s/area) Vacuum D5755-95 \_\_\_\_\_ (QTY)

□ Quan. (s/area) Dust D6480-99 \_\_\_\_\_ (QTY)

TEM Water

□ Qual. (pres/abs) \_\_\_\_\_ (QTY)

□ ELAP 198.2/EPA 100.2 \_\_\_\_\_ (QTY)

□ EPA 100.1 \_\_\_\_\_ (QTY)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

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□ All samples received in good condition unless otherwise noted.

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□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

### Metals Analysis

□ Pb Paint Chip □ % by Weight \_\_\_\_\_ (QTY) □ mg/kg \_\_\_\_\_ (QTY)

□ \*Pb Dust Wipe \_\_\_\_\_ (QTY) □ % by Weight \_\_\_\_\_ (QTY) □ mg/kg \_\_\_\_\_ (QTY)

□ \*Pb Air \_\_\_\_\_ (QTY)

□ Pb Soil/Solid \_\_\_\_\_ (QTY)

□ Pb TCLP \_\_\_\_\_ (QTY)

□ Drinking Water □ Pb \_\_\_\_\_ (QTY) □ Cu \_\_\_\_\_ (QTY)

□ Waste Water □ Pb \_\_\_\_\_ (QTY) □ Cu \_\_\_\_\_ (QTY)

□ Pb Furnace (Media \_\_\_\_\_) \_\_\_\_\_ (QTY)

□ \*Spore-Trap \_\_\_\_\_ (QTY)

□ \*Surface Swab \_\_\_\_\_ (QTY)

□ \*Surface Tape \_\_\_\_\_ (QTY)

□ Other (Specify \_\_\_\_\_) \_\_\_\_\_ (QTY)

□ Surface Vacuum Dust \_\_\_\_\_ (QTY)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

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□ All samples received in good condition unless otherwise noted.

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□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

□ TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual) TEM Water samples \_\_\_\_\_ (Qual)

□ All samples received in good condition unless otherwise noted.

### COMMENTS/SPECIAL INSTRUCTIONS

Filter by 2pm on 5/19/22

Print Name

Signature

Date

Time

Relinquished by:

Received by:

Delivery Information (For Lab Use Only)

□ FedEx □ Drop Box □ USPS □ Courier

\*by submitting samples to AMA, you agree to abide by all of our terms & conditions. Please contact the laboratory at info@amalab.com for a copy of our Terms & Conditions.

## CHAIN OF CUSTODY



## INVOICE TO:

PROJECT REFERENCE

Matrix Codes:			
AQ - Aqueous Liquid	WA - Water	DW - Drinking Water	SO - Soil
NA - Non-Aqueous Liquid	WG - Groundwater	WW - Wastewater	SL - Sludge
			SD - Solid
			PT - Paint
			WP - Wipe
			CK - Caulk
			OL - Oil
			AR - Air

[illegible]

<b>Turnaround Time</b>	<b>Report Supplements</b>			
Availability contingent upon lab approval; additional fees may apply.				
Standard 5 Day	<input checked="" type="checkbox"/>	None Required	<input type="checkbox"/>	None Required <input type="checkbox"/>
10 day	<input type="checkbox"/>	Batch QC	<input type="checkbox"/>	Basic EDD <input type="checkbox"/>
Rush 3 day	<input type="checkbox"/>	Category A	<input type="checkbox"/>	NYSDEC EDD <input type="checkbox"/>
Rush 2 day	<input type="checkbox"/>	Category B	<input type="checkbox"/>	
Rush 1 day	<input type="checkbox"/>			
Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other EDD <input type="checkbox"/>
Please indicate date needed: _____ Please indicate package needed: _____ Please indicate EDD needed : _____				

Client	Date/Time	Total Cost:
Sampled By		
Relinquished By		
Received By	Date/Time	P.I.F.
Received @ Lab By	Date/Time	

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions



## ANALYTICAL REPORT

Lab Number:	L2226265
Client:	Inventum Engineering 481 Carlisle Drive #202 Herndon, NY 20170
ATTN:	Todd Waldrop
Phone:	(571) 752-6562
Project Name:	RITC
Project Number:	BATTERY TUNNEL
Report Date:	05/25/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

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



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L2226265-01	BATTERY-TUNNEL-05782022	WATER	3875 RIVER RD.	05/18/22 09:15	05/18/22

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

### Case Narrative

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

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

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

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

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

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

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**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

### Case Narrative (continued)

#### Report Submission

May 25, 2022: This final report includes the results of all requested analyses.

May 24, 2022: This is a preliminary report.

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

The analysis of Asbestos was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

#### Total Metals

The WG1641899-3 MS recoveries for calcium (140%), magnesium (160%), and sodium (350%) performed on L2226265-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

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

Authorized Signature: *Tiffani Morrissey* - Tiffani Morrissey

Title: Technical Director/Representative

Date: 05/25/22

# ORGANICS

# **VOLATILES**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260C  
**Analytical Date:** 05/22/22 11:17  
**Analyst:** MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	1.4		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	7.8		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 05/22/22 09:17  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641540-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 05/22/22 09:17  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641540-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 05/22/22 09:17  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1641540-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641540-3 WG1641540-4								
Methylene chloride	93		96		70-130	3		20
1,1-Dichloroethane	94		94		70-130	0		20
Chloroform	90		92		70-130	2		20
Carbon tetrachloride	95		94		63-132	1		20
1,2-Dichloropropane	93		95		70-130	2		20
Dibromochloromethane	80		86		63-130	7		20
1,1,2-Trichloroethane	81		86		70-130	6		20
Tetrachloroethene	92		94		70-130	2		20
Chlorobenzene	93		95		75-130	2		20
Trichlorofluoromethane	88		89		62-150	1		20
1,2-Dichloroethane	83		88		70-130	6		20
1,1,1-Trichloroethane	92		93		67-130	1		20
Bromodichloromethane	88		90		67-130	2		20
trans-1,3-Dichloropropene	84		89		70-130	6		20
cis-1,3-Dichloropropene	92		95		70-130	3		20
Bromoform	78		83		54-136	6		20
1,1,2,2-Tetrachloroethane	81		86		67-130	6		20
Benzene	95		97		70-130	2		20
Toluene	94		95		70-130	1		20
Ethylbenzene	96		99		70-130	3		20
Chloromethane	92		92		64-130	0		20
Bromomethane	77		77		39-139	0		20
Vinyl chloride	94		94		55-140	0		20

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641540-3 WG1641540-4								
Chloroethane	91		94		55-138	3		20
1,1-Dichloroethene	94		91		61-145	3		20
trans-1,2-Dichloroethene	96		97		70-130	1		20
Trichloroethene	90		91		70-130	1		20
1,2-Dichlorobenzene	92		95		70-130	3		20
1,3-Dichlorobenzene	94		96		70-130	2		20
1,4-Dichlorobenzene	92		94		70-130	2		20
Methyl tert butyl ether	82		90		63-130	9		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		100		70-130	5		20
cis-1,2-Dichloroethene	94		97		70-130	3		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	85		85		36-147	0		20
Acetone	83		89		58-148	7		20
Carbon disulfide	91		90		51-130	1		20
2-Butanone	72		78		63-138	8		20
4-Methyl-2-pentanone	82		91		59-130	10		20
2-Hexanone	80		88		57-130	10		20
Bromochloromethane	91		94		70-130	3		20
1,2-Dibromoethane	82		88		70-130	7		20
1,2-Dibromo-3-chloropropane	80		85		41-144	6		20
Isopropylbenzene	95		96		70-130	1		20
1,2,3-Trichlorobenzene	86		89		70-130	3		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1641540-3 WG1641540-4								
1,2,4-Trichlorobenzene	87		90		70-130	3		20
Methyl Acetate	84		90		70-130	7		20
Cyclohexane	97		97		70-130	0		20
1,4-Dioxane	88		96		56-162	9		20
Freon-113	92		93		70-130	1		20
Methyl cyclohexane	95		96		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		92		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	96		96		70-130

# SEMIVOLATILES

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8270D  
**Analytical Date:** 05/20/22 12:52  
**Analyst:** SZ

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/19/22 23:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	47		15-120
2,4,6-Tribromophenol	64		10-120
4-Terphenyl-d14	47		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

Lab ID: L2226265-01  
 Client ID: BATTERY-TUNNEL-05782022  
 Sample Location: 3875 RIVER RD.

Date Collected: 05/18/22 09:15  
 Date Received: 05/18/22  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8270D-SIM  
 Analytical Date: 05/21/22 16:27  
 Analyst: RP

Extraction Method: EPA 3510C  
 Extraction Date: 05/19/22 23:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.27		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	0.78		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	7.4		ug/l	0.10	0.05	1
Benzo(a)anthracene	0.37		ug/l	0.10	0.02	1
Benzo(a)pyrene	0.18		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	0.49		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	0.12		ug/l	0.10	0.01	1
Chrysene	0.47		ug/l	0.10	0.01	1
Acenaphthylene	0.36		ug/l	0.10	0.01	1
Anthracene	0.24		ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.18		ug/l	0.10	0.01	1
Fluorene	0.40		ug/l	0.10	0.01	1
Phenanthrene	0.87		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	0.08	J	ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	0.19		ug/l	0.10	0.01	1
Pyrene	0.54		ug/l	0.10	0.02	1
2-Methylnaphthalene	0.92		ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

Lab ID: L2226265-01  
 Client ID: BATTERY-TUNNEL-05782022  
 Sample Location: 3875 RIVER RD.

Date Collected: 05/18/22 09:15  
 Date Received: 05/18/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	51		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	51		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 05/20/22 09:52  
**Analyst:** SZ

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/19/22 23:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1640771-1					
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50
Hexachlorocyclopentadiene	ND		ug/l	20	0.69
Isophorone	ND		ug/l	5.0	1.2
Nitrobenzene	ND		ug/l	2.0	0.77
NDPA/DPA	ND		ug/l	2.0	0.42
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	1.2
Di-n-butylphthalate	ND		ug/l	5.0	0.39
Di-n-octylphthalate	ND		ug/l	5.0	1.3
Diethyl phthalate	ND		ug/l	5.0	0.38
Dimethyl phthalate	ND		ug/l	5.0	1.8
Biphenyl	ND		ug/l	2.0	0.46
4-Chloroaniline	ND		ug/l	5.0	1.1
2-Nitroaniline	ND		ug/l	5.0	0.50
3-Nitroaniline	ND		ug/l	5.0	0.81
4-Nitroaniline	ND		ug/l	5.0	0.80
Dibenzofuran	ND		ug/l	2.0	0.50
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44
Acetophenone	ND		ug/l	5.0	0.53
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 05/20/22 09:52  
**Analyst:** SZ

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/19/22 23:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1640771-1					
2-Chlorophenol	ND		ug/l	2.0	0.48
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
2-Methylphenol	ND		ug/l	5.0	0.49
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77
Carbazole	ND		ug/l	2.0	0.49
Atrazine	ND		ug/l	10	0.76
Benzaldehyde	ND		ug/l	5.0	0.53
Caprolactam	ND		ug/l	10	3.3
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	38		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	71		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D-SIM  
**Analytical Date:** 05/24/22 10:28  
**Analyst:** DV

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/19/22 23:52

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1640772-1					
Acenaphthene	ND		ug/l	0.10	0.01
2-Chloronaphthalene	ND		ug/l	0.20	0.02
Fluoranthene	ND		ug/l	0.10	0.02
Hexachlorobutadiene	ND		ug/l	0.50	0.05
Naphthalene	ND		ug/l	0.10	0.05
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01
Chrysene	ND		ug/l	0.10	0.01
Acenaphthylene	ND		ug/l	0.10	0.01
Anthracene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
2-Methylnaphthalene	ND		ug/l	0.10	0.02
Pentachlorophenol	ND		ug/l	0.80	0.01
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270D-SIM  
 Analytical Date: 05/24/22 10:28  
 Analyst: DV

Extraction Method: EPA 3510C  
 Extraction Date: 05/19/22 23:52

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1640772-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	112		10-120
4-Terphenyl-d14	75		41-149

# **Lab Control Sample Analysis** Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1640771-2 WG1640771-3								
Bis(2-chloroethyl)ether	60		61		40-140	2		30
3,3'-Dichlorobenzidine	60		65		40-140	8		30
2,4-Dinitrotoluene	73		75		48-143	3		30
2,6-Dinitrotoluene	79		84		40-140	6		30
4-Chlorophenyl phenyl ether	63		66		40-140	5		30
4-Bromophenyl phenyl ether	62		65		40-140	5		30
Bis(2-chloroisopropyl)ether	58		60		40-140	3		30
Bis(2-chloroethoxy)methane	59		61		40-140	3		30
Hexachlorocyclopentadiene	61		61		40-140	0		30
Isophorone	56		58		40-140	4		30
Nitrobenzene	68		74		40-140	8		30
NDPA/DPA	64		64		40-140	0		30
n-Nitrosodi-n-propylamine	59		62		29-132	5		30
Bis(2-ethylhexyl)phthalate	63		68		40-140	8		30
Butyl benzyl phthalate	66		69		40-140	4		30
Di-n-butylphthalate	61		65		40-140	6		30
Di-n-octylphthalate	65		67		40-140	3		30
Diethyl phthalate	63		65		40-140	3		30
Dimethyl phthalate	62		64		40-140	3		30
Biphenyl	64		68		40-140	6		30
4-Chloroaniline	56		59		40-140	5		30
2-Nitroaniline	74		82		52-143	10		30
3-Nitroaniline	71		74		25-145	4		30

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1640771-2 WG1640771-3								
4-Nitroaniline	74		78		51-143	5		30
Dibenzofuran	65		67		40-140	3		30
1,2,4,5-Tetrachlorobenzene	68		64		2-134	6		30
Acetophenone	62		63		39-129	2		30
2,4,6-Trichlorophenol	66		69		30-130	4		30
p-Chloro-m-cresol	66		68		23-97	3		30
2-Chlorophenol	64		67		27-123	5		30
2,4-Dichlorophenol	67		70		30-130	4		30
2,4-Dimethylphenol	61		65		30-130	6		30
2-Nitrophenol	76		85		30-130	11		30
4-Nitrophenol	64		64		10-80	0		30
2,4-Dinitrophenol	77		74		20-130	4		30
4,6-Dinitro-o-cresol	95		90		20-164	5		30
Phenol	49		47		12-110	4		30
2-Methylphenol	59		66		30-130	11		30
3-Methylphenol/4-Methylphenol	66		64		30-130	3		30
2,4,5-Trichlorophenol	67		73		30-130	9		30
Carbazole	67		72		55-144	7		30
Atrazine	57		59		40-140	3		30
Benzaldehyde	67		66		40-140	2		30
Caprolactam	27		29		10-130	7		30
2,3,4,6-Tetrachlorophenol	70		71		40-140	1		30

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** RITC**Lab Number:** L2226265**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1640771-2 WG1640771-3

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	59		61		21-120
Phenol-d6	45		45		10-120
Nitrobenzene-d5	68		73		23-120
2-Fluorobiphenyl	62		65		15-120
2,4,6-Tribromophenol	73		80		10-120
4-Terphenyl-d14	62		65		41-149

# **Lab Control Sample Analysis** Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1640772-2 WG1640772-3								
Acenaphthene	72		73		40-140	1		40
2-Chloronaphthalene	72		73		40-140	1		40
Fluoranthene	69		72		40-140	4		40
Hexachlorobutadiene	67		70		40-140	4		40
Naphthalene	71		71		40-140	0		40
Benzo(a)anthracene	69		70		40-140	1		40
Benzo(a)pyrene	64		65		40-140	2		40
Benzo(b)fluoranthene	71		79		40-140	11		40
Benzo(k)fluoranthene	77		72		40-140	7		40
Chrysene	71		73		40-140	3		40
Acenaphthylene	65		66		40-140	2		40
Anthracene	69		72		40-140	4		40
Benzo(ghi)perylene	75		75		40-140	0		40
Fluorene	72		74		40-140	3		40
Phenanthrene	68		73		40-140	7		40
Dibenzo(a,h)anthracene	78		79		40-140	1		40
Indeno(1,2,3-cd)pyrene	79		79		40-140	0		40
Pyrene	70		72		40-140	3		40
2-Methylnaphthalene	71		72		40-140	1		40
Pentachlorophenol	58		58		40-140	0		40
Hexachlorobenzene	72		77		40-140	7		40
Hexachloroethane	66		68		40-140	3		40

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** RITC**Project Number:** BATTERY TUNNEL**Lab Number:** L2226265**Report Date:** 05/25/22

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1640772-2 WG1640772-3								

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	58		57		21-120
Phenol-d6	47		46		10-120
Nitrobenzene-d5	72		71		23-120
2-Fluorobiphenyl	64		67		15-120
2,4,6-Tribromophenol	86		87		10-120
4-Terphenyl-d14	66		69		41-149

# PCBS

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8082A  
**Analytical Date:** 05/21/22 11:39  
**Analyst:** JM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 05/20/22 12:12  
**Cleanup Method:** EPA 3665A  
**Cleanup Date:** 05/20/22  
**Cleanup Method:** EPA 3660B  
**Cleanup Date:** 05/20/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.071	0.061	1	A
Aroclor 1221	ND		ug/l	0.071	0.061	1	A
Aroclor 1232	ND		ug/l	0.071	0.061	1	A
Aroclor 1242	ND		ug/l	0.071	0.061	1	A
Aroclor 1248	ND		ug/l	0.071	0.061	1	A
Aroclor 1254	ND		ug/l	0.071	0.061	1	A
Aroclor 1260	ND		ug/l	0.071	0.061	1	B
Aroclor 1262	ND		ug/l	0.071	0.061	1	A
Aroclor 1268	ND		ug/l	0.071	0.061	1	A
PCBs, Total	ND		ug/l	0.071	0.061	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	83		30-150	B

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8082A  
 Analytical Date: 05/21/22 10:49  
 Analyst: WR

Extraction Method: EPA 3510C  
 Extraction Date: 05/20/22 12:12  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 05/20/22  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 05/20/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1641016-1						
Aroclor 1016	ND		ug/l	0.071	0.061	A
Aroclor 1221	ND		ug/l	0.071	0.061	A
Aroclor 1232	ND		ug/l	0.071	0.061	A
Aroclor 1242	ND		ug/l	0.071	0.061	A
Aroclor 1248	ND		ug/l	0.071	0.061	A
Aroclor 1254	ND		ug/l	0.071	0.061	A
Aroclor 1260	ND		ug/l	0.071	0.061	A
Aroclor 1262	ND		ug/l	0.071	0.061	A
Aroclor 1268	ND		ug/l	0.071	0.061	A
PCBs, Total	ND		ug/l	0.071	0.061	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	110		30-150	A
Decachlorobiphenyl	109		30-150	A
2,4,5,6-Tetrachloro-m-xylene	106		30-150	B
Decachlorobiphenyl	115		30-150	B

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1641016-2 WG1641016-3									
Aroclor 1016	99		97		40-140	2		50	A
Aroclor 1260	99		96		40-140	2		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	108		102		30-150	A
Decachlorobiphenyl	95		103		30-150	A
2,4,5,6-Tetrachloro-m-xylene	99		96		30-150	B
Decachlorobiphenyl	105		103		30-150	B

## **METALS**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**SAMPLE RESULTS**

Lab ID: L2226265-01  
 Client ID: BATTERY-TUNNEL-05782022  
 Sample Location: 3875 RIVER RD.

Date Collected: 05/18/22 09:15  
 Date Received: 05/18/22  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.92		mg/l	0.100	0.032	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Antimony, Total	ND		mg/l	0.050	0.007	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Arsenic, Total	0.007		mg/l	0.005	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Barium, Total	0.033		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Beryllium, Total	ND		mg/l	0.005	0.001	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Cadmium, Total	0.052		mg/l	0.005	0.001	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Calcium, Total	558		mg/l	0.100	0.035	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Chromium, Total	0.005	J	mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Cobalt, Total	0.048		mg/l	0.020	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Copper, Total	0.004	J	mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Iron, Total	7.66		mg/l	0.050	0.009	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Lead, Total	0.010		mg/l	0.010	0.003	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Magnesium, Total	108		mg/l	0.100	0.015	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Manganese, Total	5.42		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Mercury, Total	0.00011	J	mg/l	0.00020	0.00009	1	05/24/22 11:02	05/24/22 14:37	EPA 7470A	1,7470A	DMB
Nickel, Total	0.495		mg/l	0.025	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Potassium, Total	256		mg/l	2.50	0.237	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Selenium, Total	0.004	J	mg/l	0.010	0.004	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Silver, Total	ND		mg/l	0.007	0.003	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Sodium, Total	490		mg/l	4.00	0.240	2	05/24/22 08:22	05/25/22 10:40	EPA 3005A	1,6010D	SB
Thallium, Total	0.009	J	mg/l	0.020	0.003	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Vanadium, Total	0.008	J	mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB
Zinc, Total	3.86		mg/l	0.050	0.002	1	05/24/22 08:22	05/25/22 08:59	EPA 3005A	1,6010D	SB



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

## Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1641899-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Antimony, Total	ND		mg/l	0.050	0.007	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Arsenic, Total	ND		mg/l	0.005	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Barium, Total	ND		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Beryllium, Total	ND		mg/l	0.005	0.001	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Cadmium, Total	ND		mg/l	0.005	0.001	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Calcium, Total	ND		mg/l	0.100	0.035	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Chromium, Total	ND		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Cobalt, Total	ND		mg/l	0.020	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Copper, Total	ND		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Iron, Total	ND		mg/l	0.050	0.009	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Lead, Total	ND		mg/l	0.010	0.003	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Magnesium, Total	ND		mg/l	0.100	0.015	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Manganese, Total	ND		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Nickel, Total	ND		mg/l	0.025	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Potassium, Total	ND		mg/l	2.50	0.237	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Selenium, Total	ND		mg/l	0.010	0.004	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Silver, Total	ND		mg/l	0.007	0.003	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Sodium, Total	ND		mg/l	2.00	0.120	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Thallium, Total	ND		mg/l	0.020	0.003	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Vanadium, Total	ND		mg/l	0.010	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB
Zinc, Total	ND		mg/l	0.050	0.002	1	05/24/22 08:22	05/25/22 08:41	1,6010D	SB

### Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1641901-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	05/24/22 11:02	05/24/22 14:30	1,7470A	DMB



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

## **Method Blank Analysis Batch Quality Control**

### **Prep Information**

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Digestion Method: EPA 7470A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641899-2								
Aluminum, Total	108		-		80-120	-		
Antimony, Total	96		-		80-120	-		
Arsenic, Total	102		-		80-120	-		
Barium, Total	103		-		80-120	-		
Beryllium, Total	104		-		80-120	-		
Cadmium, Total	99		-		80-120	-		
Calcium, Total	98		-		80-120	-		
Chromium, Total	96		-		80-120	-		
Cobalt, Total	94		-		80-120	-		
Copper, Total	96		-		80-120	-		
Iron, Total	99		-		80-120	-		
Lead, Total	100		-		80-120	-		
Magnesium, Total	112		-		80-120	-		
Manganese, Total	104		-		80-120	-		
Nickel, Total	94		-		80-120	-		
Potassium, Total	97		-		80-120	-		
Selenium, Total	101		-		80-120	-		
Silver, Total	93		-		80-120	-		
Sodium, Total	108		-		80-120	-		
Thallium, Total	100		-		80-120	-		
Vanadium, Total	107		-		80-120	-		

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641899-2					
Zinc, Total	97	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1641901-2					
Mercury, Total	93	-	80-120	-	

# **Matrix Spike Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641899-3 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022												
Aluminum, Total	1.92	2	4.13	110		-	-		75-125	-		20
Antimony, Total	ND	0.5	0.485	97		-	-		75-125	-		20
Arsenic, Total	0.007	0.12	0.133	105		-	-		75-125	-		20
Barium, Total	0.033	2	2.01	99		-	-		75-125	-		20
Beryllium, Total	ND	0.05	0.050	100		-	-		75-125	-		20
Cadmium, Total	0.052	0.053	0.101	93		-	-		75-125	-		20
Calcium, Total	558	10	572	140	Q	-	-		75-125	-		20
Chromium, Total	0.005J	0.2	0.189	94		-	-		75-125	-		20
Cobalt, Total	0.048	0.5	0.476	86		-	-		75-125	-		20
Copper, Total	0.004J	0.25	0.244	98		-	-		75-125	-		20
Iron, Total	7.66	1	8.73	107		-	-		75-125	-		20
Lead, Total	0.010	0.53	0.479	88		-	-		75-125	-		20
Magnesium, Total	108	10	124	160	Q	-	-		75-125	-		20
Manganese, Total	5.42	0.5	6.01	118		-	-		75-125	-		20
Nickel, Total	0.495	0.5	0.928	87		-	-		75-125	-		20
Potassium, Total	256	10	267	110		-	-		75-125	-		20
Selenium, Total	0.004J	0.12	0.134	112		-	-		75-125	-		20
Silver, Total	ND	0.05	0.048	96		-	-		75-125	-		20
Sodium, Total	490	10	525	350	Q	-	-		75-125	-		20
Thallium, Total	0.009J	0.12	0.107	89		-	-		75-125	-		20
Vanadium, Total	0.008J	0.5	0.541	108		-	-		75-125	-		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641899-3 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022									
Zinc, Total	3.86	0.5	4.42	112	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641901-3 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022									
Mercury, Total	0.00011J	0.005	0.00464	93	-	-	75-125	-	20

# Lab Duplicate Analysis

Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641899-4 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022						
Aluminum, Total	1.92	1.98	mg/l	3		20
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.007	0.003J	mg/l	NC		20
Barium, Total	0.033	0.034	mg/l	3		20
Beryllium, Total	ND	ND	mg/l	NC		20
Cadmium, Total	0.052	0.054	mg/l	5		20
Calcium, Total	558	580	mg/l	4		20
Chromium, Total	0.005J	0.005J	mg/l	NC		20
Cobalt, Total	0.048	0.050	mg/l	3		20
Copper, Total	0.004J	0.003J	mg/l	NC		20
Iron, Total	7.66	7.90	mg/l	3		20
Lead, Total	0.010	0.009J	mg/l	NC		20
Magnesium, Total	108	115	mg/l	6		20
Manganese, Total	5.42	5.61	mg/l	3		20
Nickel, Total	0.495	0.516	mg/l	4		20
Potassium, Total	256	264	mg/l	3		20
Selenium, Total	0.004J	0.009J	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Thallium, Total	0.009J	0.011J	mg/l	NC		20

# **Lab Duplicate Analysis** *Batch Quality Control*

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641899-4 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022					
Vanadium, Total	0.008J	0.008J	mg/l	NC	20
Zinc, Total	3.86	4.06	mg/l	5	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641899-4 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022					
Sodium, Total	490	499	mg/l	2	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1641901-4 QC Sample: L2226265-01 Client ID: BATTERY-TUNNEL-05782022					
Mercury, Total	0.00011J	0.00018J	mg/l	NC	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

### SAMPLE RESULTS

**Lab ID:** L2226265-01  
**Client ID:** BATTERY-TUNNEL-05782022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 05/18/22 09:15  
**Date Received:** 05/18/22  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.334		mg/l	0.005	0.001	1	05/24/22 10:50	05/24/22 13:38	1,9010C/9012B	CS
Nitrogen, Ammonia	62.2		mg/l	3.75	1.20	50	05/24/22 16:26	05/24/22 17:59	44,350.1	AT



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1642100-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	05/24/22 16:26	05/24/22 17:24	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1642156-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	05/24/22 10:50	05/24/22 13:23	1,9010C/9012B	CS

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1642100-2								
Nitrogen, Ammonia	98		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1642156-2 WG1642156-3								
Cyanide, Total	107		105		85-115	2		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1642100-4 QC Sample: L2224612-03 Client ID: MS Sample												
Nitrogen, Ammonia	0.027J	4	3.36	84	Q	-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1642156-4 WG1642156-5 QC Sample: L2225034-08 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.213	106		0.102	51	Q	80-120	70	Q	20

**Lab Duplicate Analysis**  
*Batch Quality Control*

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1642100-3 QC Sample: L2224612-03 Client ID: DUP Sample						
Nitrogen, Ammonia	0.027J	ND	mg/l	NC		20

**Project Name:** RITC**Lab Number:** L2226265**Project Number:** BATTERY TUNNEL**Report Date:** 05/25/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2226265-01A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2226265-01B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2226265-01C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2226265-01D	Amber 120ml unpreserved	A	7	7	2.2	Y	Absent		NYTCL-8082-LVI(365)
L2226265-01E	Amber 120ml unpreserved	A	7	7	2.2	Y	Absent		NYTCL-8082-LVI(365)
L2226265-01F	Plastic 250ml NaOH preserved	A	>12	>12	2.2	Y	Absent		TCN-9010(14)
L2226265-01G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		BE-TI(180),BA-TI(180),AS-TI(180),AG-TI(180),AL-TI(180),TL-TI(180),NI-TI(180),CR-TI(180),SB-TI(180),ZN-TI(180),SE-TI(180),CU-TI(180),PB-TI(180),V-TI(180),CO-TI(180),MG-TI(180),MN-TI(180),FE-TI(180),HG-T(28),CA-TI(180),CD-TI(180),NA-TI(180),K-TI(180)
L2226265-01H	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2226265-01I	Amber 250ml unpreserved	A	7	7	2.2	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2226265-01J	Plastic 500ml H2SO4 preserved	A	<2	<2	2.2	Y	Absent		NH3-350(28)
L2226265-01K	Plastic 950ml unpreserved	A	7	7	2.2	Y	Absent		ARCHIVE()

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

*Report Format: DU Report with 'J' Qualifiers*



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2226265  
**Report Date:** 05/25/22

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene

**EPA 625/625.1:** alpha-Terpineol

**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

**EPA 522, EPA 537.1.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.





# EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043  
 Phone/Fax: (716) 651-0030 / (716) 651-0394  
<http://www.EMSL.com> / [buffalolab@emsl.com](mailto:buffalolab@emsl.com)

EMSL Order ID: 142201832  
 Customer ID: ALPH55  
 Customer PO:  
 Project ID:

**Attn:** Sub Reports  
 Alpha Analytical, Inc.  
 8 Walkup Drive  
 Westborough, MA 01581

**Phone:**  
**Fax:** (508) 898-9193  
**Received:** 05/18/2022  
**Analyzed:** 05/25/2022

**Proj:** L2226265

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10\mu\text{m}$ in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm²)	Area Analyzed (mm²)	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits	
					MFL (million fibers per liter)					
Battery-Tunnel - 05182022 142201832-0001	5/19/2022 07:32 AM	0.10	1288	0.2620	≥ 0.5 µm	None Detected	ND	49.00	<49.00	0.00 - 180.00
					> 10 µm only	None Detected	ND	49.00	<49.00	0.00 - 180.00

Collection Date/Time: 05/18/2022 09:15 AM

Due to the excessive particulate, the analytical sensitivity of 0.2 MFL as required by the method was not reached.

### Analyst(s)

Tom Hanes

(1)

Rhonda McGee, Laboratory Manager  
 or Other Approved Signatory

Any questions please contact Rhonda McGee.

Initial report from: 05/25/2022 13:36:33

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Samples analyzed by EMSL Analytical, Inc. Depew, NY NYS ELAP 11606



## ANALYTICAL REPORT

Lab Number:	L2228679
Client:	Inventum Engineering 481 Carlisle Drive #202 Herndon, NY 20170
ATTN:	Todd Waldrop
Phone:	(571) 752-6562
Project Name:	RITC
Project Number:	BATTERY TUNNEL
Report Date:	06/07/22

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

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



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L2228679-01	BATTERY-TUNNEL-06012022	WATER	3875 RIVER RD.	06/01/22 08:45	06/01/22

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

### Case Narrative

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

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

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

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

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

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

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**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

### Case Narrative (continued)

#### Report Submission

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

The analysis of Asbestos was subcontracted. A copy of the laboratory report is included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

#### Nitrogen, Ammonia

The WG1645628-4 MS recovery for nitrogen, ammonia (0%), performed on L2228679-01, does not apply because the sample concentration is greater than four times the spike amount added.

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

Authorized Signature: *Tiffani Morrissey* - Tiffani Morrissey

Title: Technical Director/Representative

Date: 06/07/22

# ORGANICS

# **VOLATILES**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8260C  
**Analytical Date:** 06/06/22 09:29  
**Analyst:** PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	0.26	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	21		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	119		70-130

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 06/06/22 09:04  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1647489-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 06/06/22 09:04  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1647489-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 06/06/22 09:04  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1647489-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	119		70-130

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1647489-3 WG1647489-4								
Methylene chloride	110		120		70-130	9		20
1,1-Dichloroethane	120		120		70-130	0		20
Chloroform	120		120		70-130	0		20
Carbon tetrachloride	110		100		63-132	10		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	99		95		63-130	4		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	96		94		70-130	2		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	110		120		70-130	9		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	100		110		67-130	10		20
trans-1,3-Dichloropropene	98		95		70-130	3		20
cis-1,3-Dichloropropene	100		98		70-130	2		20
Bromoform	85		79		54-136	7		20
1,1,2,2-Tetrachloroethane	110		100		67-130	10		20
Benzene	110		110		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	100		100		64-130	0		20
Bromomethane	76		82		39-139	8		20
Vinyl chloride	130		130		55-140	0		20

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1647489-3 WG1647489-4								
Chloroethane	170	Q	170	Q	55-138	0		20
1,1-Dichloroethene	120		110		61-145	9		20
trans-1,2-Dichloroethene	110		120		70-130	9		20
Trichloroethene	110		100		70-130	10		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		99		70-130	1		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	93		95		63-130	2		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	110		110		36-147	0		20
Acetone	150	Q	140		58-148	7		20
Carbon disulfide	120		120		51-130	0		20
2-Butanone	120		120		63-138	0		20
4-Methyl-2-pentanone	91		84		59-130	8		20
2-Hexanone	96		94		57-130	2		20
Bromochloromethane	100		110		70-130	10		20
1,2-Dibromoethane	100		99		70-130	1		20
1,2-Dibromo-3-chloropropane	85		87		41-144	2		20
Isopropylbenzene	100		99		70-130	1		20
1,2,3-Trichlorobenzene	86		89		70-130	3		20

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1647489-3 WG1647489-4								
1,2,4-Trichlorobenzene	90		88		70-130	2		20
Methyl Acetate	110		110		70-130	0		20
Cyclohexane	110		110		70-130	0		20
1,4-Dioxane	104		108		56-162	4		20
Freon-113	120		120		70-130	0		20
Methyl cyclohexane	100		98		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	110		112		70-130
Toluene-d8	104		105		70-130
4-Bromofluorobenzene	95		97		70-130
Dibromofluoromethane	104		107		70-130

# SEMIVOLATILES

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8270D  
**Analytical Date:** 06/03/22 14:33  
**Analyst:** CMM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.88	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.85	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.38	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.37	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.80	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.63	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	1.8	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	1.5	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.61	1
Isophorone	ND		ug/l	5.0	0.66	1
Nitrobenzene	ND		ug/l	2.0	0.66	1
NDPA/DPA	ND		ug/l	2.0	0.65	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.77	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	2.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.58	1
Di-n-octylphthalate	ND		ug/l	5.0	2.4	1
Diethyl phthalate	ND		ug/l	5.0	4.3	1
Dimethyl phthalate	ND		ug/l	5.0	4.4	1
Biphenyl	ND		ug/l	2.0	0.64	1
4-Chloroaniline	ND		ug/l	5.0	0.65	1
2-Nitroaniline	ND		ug/l	5.0	0.52	1
3-Nitroaniline	ND		ug/l	5.0	0.57	1
4-Nitroaniline	ND		ug/l	5.0	0.58	1
Dibenzofuran	ND		ug/l	2.0	0.82	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.62	1
Acetophenone	ND		ug/l	5.0	0.98	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.49	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.41	1
2-Chlorophenol	ND		ug/l	2.0	0.40	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.53	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.1	1
2-Nitrophenol	ND		ug/l	10	0.46	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	3.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	5.4	1
Phenol	ND		ug/l	5.0	1.3	1
2-Methylphenol	ND		ug/l	5.0	1.1	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.55	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.38	1
Carbazole	ND		ug/l	2.0	0.76	1
Atrazine	ND		ug/l	10	1.7	1
Benzaldehyde	ND		ug/l	5.0	0.90	1
Caprolactam	ND		ug/l	10	1.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		21-120
Phenol-d6	43		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	110		10-120
4-Terphenyl-d14	83		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8270D-SIM  
**Analytical Date:** 06/03/22 19:30  
**Analyst:** JJW

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.53		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	1.0		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	0.31		ug/l	0.10	0.04	1
Benzo(a)anthracene	0.36		ug/l	0.10	0.02	1
Benzo(a)pyrene	0.14		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	0.40		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	0.13		ug/l	0.10	0.04	1
Chrysene	0.47		ug/l	0.10	0.04	1
Acenaphthylene	0.19		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	0.14		ug/l	0.10	0.04	1
Fluorene	0.25		ug/l	0.10	0.04	1
Phenanthrene	0.45		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	0.05	J	ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	0.16		ug/l	0.10	0.04	1
Pyrene	0.71		ug/l	0.10	0.04	1
2-Methylnaphthalene	0.14		ug/l	0.10	0.05	1
Pentachlorophenol	0.38	J	ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

Lab ID: L2228679-01  
 Client ID: BATTERY-TUNNEL-06012022  
 Sample Location: 3875 RIVER RD.

Date Collected: 06/01/22 08:45  
 Date Received: 06/01/22  
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	89		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 06/03/22 09:23  
**Analyst:** CMM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1646052-1					
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.88
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.85
2,4-Dinitrotoluene	ND		ug/l	5.0	0.38
2,6-Dinitrotoluene	ND		ug/l	5.0	0.37
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.80
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.63
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	1.8
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	1.5
Hexachlorocyclopentadiene	ND		ug/l	20	0.61
Isophorone	ND		ug/l	5.0	0.66
Nitrobenzene	ND		ug/l	2.0	0.66
NDPA/DPA	ND		ug/l	2.0	0.65
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.77
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	2.2
Di-n-butylphthalate	ND		ug/l	5.0	0.58
Di-n-octylphthalate	ND		ug/l	5.0	2.4
Diethyl phthalate	ND		ug/l	5.0	4.3
Dimethyl phthalate	ND		ug/l	5.0	4.4
Biphenyl	ND		ug/l	2.0	0.64
4-Chloroaniline	ND		ug/l	5.0	0.65
2-Nitroaniline	ND		ug/l	5.0	0.52
3-Nitroaniline	ND		ug/l	5.0	0.57
4-Nitroaniline	ND		ug/l	5.0	0.58
Dibenzofuran	ND		ug/l	2.0	0.82
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.62
Acetophenone	ND		ug/l	5.0	0.98
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.49
p-Chloro-m-cresol	ND		ug/l	2.0	0.41

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 06/03/22 09:23  
**Analyst:** CMM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1646052-1					
2-Chlorophenol	ND		ug/l	2.0	0.40
2,4-Dichlorophenol	ND		ug/l	5.0	0.53
2,4-Dimethylphenol	ND		ug/l	5.0	1.1
2-Nitrophenol	ND		ug/l	10	0.46
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	3.6
4,6-Dinitro-o-cresol	ND		ug/l	10	5.4
Phenol	ND		ug/l	5.0	1.3
2-Methylphenol	ND		ug/l	5.0	1.1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.55
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.38
Carbazole	ND		ug/l	2.0	0.76
Atrazine	ND		ug/l	10	1.7
Benzaldehyde	ND		ug/l	5.0	0.90
Caprolactam	ND		ug/l	10	1.3
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.47

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	101		10-120
4-Terphenyl-d14	75		41-149

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D-SIM  
**Analytical Date:** 06/03/22 18:40  
**Analyst:** JJW

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1646053-1					
Acenaphthene	ND		ug/l	0.10	0.04
2-Chloronaphthalene	ND		ug/l	0.20	0.04
Fluoranthene	ND		ug/l	0.10	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.04
Naphthalene	ND		ug/l	0.10	0.04
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.04
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04
Chrysene	ND		ug/l	0.10	0.04
Acenaphthylene	ND		ug/l	0.10	0.04
Anthracene	ND		ug/l	0.10	0.04
Benzo(ghi)perylene	ND		ug/l	0.10	0.04
Fluorene	ND		ug/l	0.10	0.04
Phenanthrene	0.05	J	ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04
Pyrene	ND		ug/l	0.10	0.04
2-Methylnaphthalene	ND		ug/l	0.10	0.05
Pentachlorophenol	ND		ug/l	0.80	0.22
Hexachlorobenzene	ND		ug/l	0.80	0.03
Hexachloroethane	ND		ug/l	0.80	0.03

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8270D-SIM  
 Analytical Date: 06/03/22 18:40  
 Analyst: JJW

Extraction Method: EPA 3510C  
 Extraction Date: 06/03/22 00:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1646053-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	42		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	80		10-120
4-Terphenyl-d14	78		41-149

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1646052-2 WG1646052-3								
Bis(2-chloroethyl)ether	68		68		40-140	0		30
3,3'-Dichlorobenzidine	82		76		40-140	8		30
2,4-Dinitrotoluene	74		69		48-143	7		30
2,6-Dinitrotoluene	72		70		40-140	3		30
4-Chlorophenyl phenyl ether	66		63		40-140	5		30
4-Bromophenyl phenyl ether	76		72		40-140	5		30
Bis(2-chloroisopropyl)ether	57		58		40-140	2		30
Bis(2-chloroethoxy)methane	72		71		40-140	1		30
Hexachlorocyclopentadiene	42		43		40-140	2		30
Isophorone	74		72		40-140	3		30
Nitrobenzene	78		80		40-140	3		30
NDPA/DPA	72		68		40-140	6		30
n-Nitrosodi-n-propylamine	73		72		29-132	1		30
Bis(2-ethylhexyl)phthalate	82		79		40-140	4		30
Butyl benzyl phthalate	85		79		40-140	7		30
Di-n-butylphthalate	87		81		40-140	7		30
Di-n-octylphthalate	86		82		40-140	5		30
Diethyl phthalate	75		71		40-140	5		30
Dimethyl phthalate	70		66		40-140	6		30
Biphenyl	64		63		40-140	2		30
4-Chloroaniline	59		56		40-140	5		30
2-Nitroaniline	90		83		52-143	8		30
3-Nitroaniline	74		70		25-145	6		30

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1646052-2 WG1646052-3								
4-Nitroaniline	84		80		51-143	5		30
Dibenzofuran	70		67		40-140	4		30
1,2,4,5-Tetrachlorobenzene	56		54		2-134	4		30
Acetophenone	70		70		39-129	0		30
2,4,6-Trichlorophenol	74		68		30-130	8		30
p-Chloro-m-cresol	86		79		23-97	8		30
2-Chlorophenol	70		71		27-123	1		30
2,4-Dichlorophenol	74		73		30-130	1		30
2,4-Dimethylphenol	79		75		30-130	5		30
2-Nitrophenol	90		90		30-130	0		30
4-Nitrophenol	63		57		10-80	10		30
2,4-Dinitrophenol	39		40		20-130	3		30
4,6-Dinitro-o-cresol	60		60		20-164	0		30
Phenol	44		41		12-110	7		30
2-Methylphenol	70		69		30-130	1		30
3-Methylphenol/4-Methylphenol	68		65		30-130	5		30
2,4,5-Trichlorophenol	73		70		30-130	4		30
Carbazole	80		75		55-144	6		30
Atrazine	69		66		40-140	4		30
Benzaldehyde	71		74		40-140	4		30
Caprolactam	30		27		10-130	11		30
2,3,4,6-Tetrachlorophenol	75		70		40-140	7		30

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** RITC**Lab Number:** L2228679**Project Number:** BATTERY TUNNEL**Report Date:** 06/07/22

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1646052-2 WG1646052-3

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	61		60		21-120
Phenol-d6	46		44		10-120
Nitrobenzene-d5	81		81		23-120
2-Fluorobiphenyl	68		65		15-120
2,4,6-Tribromophenol	107		102		10-120
4-Terphenyl-d14	82		75		41-149

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1646053-2 WG1646053-3								
Acenaphthene	82		87		40-140	6		40
2-Chloronaphthalene	84		89		40-140	6		40
Fluoranthene	91		96		40-140	5		40
Hexachlorobutadiene	68		73		40-140	7		40
Naphthalene	77		82		40-140	6		40
Benzo(a)anthracene	98		100		40-140	2		40
Benzo(a)pyrene	96		103		40-140	7		40
Benzo(b)fluoranthene	95		93		40-140	2		40
Benzo(k)fluoranthene	89		102		40-140	14		40
Chrysene	79		82		40-140	4		40
Acenaphthylene	91		97		40-140	6		40
Anthracene	85		92		40-140	8		40
Benzo(ghi)perylene	92		100		40-140	8		40
Fluorene	88		92		40-140	4		40
Phenanthrene	79		84		40-140	6		40
Dibenzo(a,h)anthracene	100		109		40-140	9		40
Indeno(1,2,3-cd)pyrene	98		108		40-140	10		40
Pyrene	92		95		40-140	3		40
2-Methylnaphthalene	79		83		40-140	5		40
Pentachlorophenol	83		90		40-140	8		40
Hexachlorobenzene	68		72		40-140	6		40
Hexachloroethane	73		78		40-140	7		40

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** RITC**Lab Number:** L2228679**Project Number:** BATTERY TUNNEL**Report Date:** 06/07/22

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1646053-2 WG1646053-3								

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	68		72		21-120
Phenol-d6	49		53		10-120
Nitrobenzene-d5	85		91		23-120
2-Fluorobiphenyl	80		85		15-120
2,4,6-Tribromophenol	94		101		10-120
4-Terphenyl-d14	89		95		41-149

# PCBS

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**

**Matrix:** Water  
**Analytical Method:** 1,8082A  
**Analytical Date:** 06/03/22 15:38  
**Analyst:** JM

**Extraction Method:** EPA 3510C  
**Extraction Date:** 06/03/22 00:04  
**Cleanup Method:** EPA 3665A  
**Cleanup Date:** 06/03/22  
**Cleanup Method:** EPA 3660B  
**Cleanup Date:** 06/03/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.013	1	A
Aroclor 1221	ND		ug/l	0.083	0.018	1	A
Aroclor 1232	ND		ug/l	0.083	0.038	1	A
Aroclor 1242	ND		ug/l	0.083	0.030	1	A
Aroclor 1248	ND		ug/l	0.083	0.038	1	A
Aroclor 1254	ND		ug/l	0.083	0.014	1	A
Aroclor 1260	ND		ug/l	0.083	0.029	1	A
Aroclor 1262	ND		ug/l	0.083	0.028	1	A
Aroclor 1268	ND		ug/l	0.083	0.026	1	A
PCBs, Total	ND		ug/l	0.083	0.013	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	60		30-150	A

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8082A  
 Analytical Date: 06/03/22 16:09  
 Analyst: JM

Extraction Method: EPA 3510C  
 Extraction Date: 06/03/22 00:04  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 06/03/22  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 06/03/22

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1646051-1						
Aroclor 1016	ND		ug/l	0.083	0.013	A
Aroclor 1221	ND		ug/l	0.083	0.018	A
Aroclor 1232	ND		ug/l	0.083	0.038	A
Aroclor 1242	ND		ug/l	0.083	0.030	A
Aroclor 1248	ND		ug/l	0.083	0.038	A
Aroclor 1254	ND		ug/l	0.083	0.014	A
Aroclor 1260	ND		ug/l	0.083	0.029	A
Aroclor 1262	ND		ug/l	0.083	0.028	A
Aroclor 1268	ND		ug/l	0.083	0.026	A
PCBs, Total	ND		ug/l	0.083	0.013	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	64		30-150	A

**Lab Control Sample Analysis****Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>	<b>Column</b>
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1646051-2 WG1646051-3									
Aroclor 1016	77		79		40-140	2		50	A
Aroclor 1260	75		75		40-140	1		50	A

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>	<b>Column</b>
2,4,5,6-Tetrachloro-m-xylene	74		78		30-150	B
Decachlorobiphenyl	55		54		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		79		30-150	A
Decachlorobiphenyl	60		59		30-150	A

## METALS

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**SAMPLE RESULTS**

Lab ID: L2228679-01  
 Client ID: BATTERY-TUNNEL-06012022  
 Sample Location: 3875 RIVER RD.

Date Collected: 06/01/22 08:45  
 Date Received: 06/01/22  
 Field Prep: Not Specified

Sample Depth:  
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.235		mg/l	0.100	0.032	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Antimony, Total	ND		mg/l	0.050	0.007	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Arsenic, Total	0.003	J	mg/l	0.005	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Barium, Total	0.038		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Beryllium, Total	ND		mg/l	0.005	0.001	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Cadmium, Total	0.003	J	mg/l	0.005	0.001	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Calcium, Total	1080		mg/l	1.00	0.350	10	06/02/22 18:14	06/04/22 10:12	EPA 3005A	1,6010D	SB
Chromium, Total	0.004	J	mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Cobalt, Total	0.016	J	mg/l	0.020	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Copper, Total	0.006	J	mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Iron, Total	1.78		mg/l	0.050	0.009	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Lead, Total	0.010	J	mg/l	0.010	0.003	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Magnesium, Total	126		mg/l	0.100	0.015	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Manganese, Total	5.48		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Mercury, Total	0.00009	J	mg/l	0.00020	0.00009	1	06/02/22 21:10	06/03/22 08:11	EPA 7470A	1,7470A	DMB
Nickel, Total	0.108		mg/l	0.025	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Potassium, Total	357		mg/l	2.50	0.237	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Selenium, Total	ND		mg/l	0.010	0.004	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Silver, Total	ND		mg/l	0.007	0.003	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Sodium, Total	1130		mg/l	20.0	1.20	10	06/02/22 18:14	06/04/22 10:12	EPA 3005A	1,6010D	SB
Thallium, Total	0.015	J	mg/l	0.020	0.003	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Vanadium, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV
Zinc, Total	0.413		mg/l	0.050	0.002	1	06/02/22 18:14	06/03/22 18:16	EPA 3005A	1,6010D	BV



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

## Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1645373-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	06/02/22 21:10	06/03/22 07:17	1,7470A	DMB

### Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1645860-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Antimony, Total	ND		mg/l	0.050	0.007	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Arsenic, Total	ND		mg/l	0.005	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Barium, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Beryllium, Total	ND		mg/l	0.005	0.001	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Cadmium, Total	ND		mg/l	0.005	0.001	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Calcium, Total	ND		mg/l	0.100	0.035	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Chromium, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Cobalt, Total	ND		mg/l	0.020	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Copper, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Iron, Total	ND		mg/l	0.050	0.009	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Lead, Total	ND		mg/l	0.010	0.003	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Magnesium, Total	ND		mg/l	0.100	0.015	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Manganese, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Nickel, Total	ND		mg/l	0.025	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Potassium, Total	ND		mg/l	2.50	0.237	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Selenium, Total	ND		mg/l	0.010	0.004	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Silver, Total	ND		mg/l	0.007	0.003	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Sodium, Total	ND		mg/l	2.00	0.120	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Thallium, Total	ND		mg/l	0.020	0.003	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Vanadium, Total	ND		mg/l	0.010	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV
Zinc, Total	ND		mg/l	0.050	0.002	1	06/02/22 18:14	06/03/22 15:12	1,6010D	BV

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

## Method Blank Analysis Batch Quality Control

### Prep Information

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Digestion Method: EPA 3005A

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1645373-2								
Mercury, Total	99		-		80-120	-		

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1645860-2					
Aluminum, Total	98	-	80-120	-	
Antimony, Total	93	-	80-120	-	
Arsenic, Total	102	-	80-120	-	
Barium, Total	101	-	80-120	-	
Beryllium, Total	100	-	80-120	-	
Cadmium, Total	96	-	80-120	-	
Calcium, Total	96	-	80-120	-	
Chromium, Total	94	-	80-120	-	
Cobalt, Total	91	-	80-120	-	
Copper, Total	98	-	80-120	-	
Iron, Total	93	-	80-120	-	
Lead, Total	97	-	80-120	-	
Magnesium, Total	98	-	80-120	-	
Manganese, Total	89	-	80-120	-	
Nickel, Total	93	-	80-120	-	
Potassium, Total	102	-	80-120	-	
Selenium, Total	99	-	80-120	-	
Silver, Total	96	-	80-120	-	
Sodium, Total	105	-	80-120	-	
Thallium, Total	95	-	80-120	-	
Vanadium, Total	97	-	80-120	-	

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** RITC**Project Number:** BATTERY TUNNEL**Lab Number:** L2228679**Report Date:** 06/07/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1645860-2					
Zinc, Total	95	-	80-120	-	

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1645373-3 WG1645373-4 QC Sample: L2227541-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00481	96		0.00474	95		75-125	1		20

# **Matrix Spike Analysis** **Batch Quality Control**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1645860-3 WG1645860-4 QC Sample: L2225687-05 Client ID: MS Sample									
Aluminum, Total	0.140	2	2.08	97	2.02	94	75-125	3	20
Antimony, Total	ND	0.5	0.466	93	0.468	94	75-125	0	20
Arsenic, Total	ND	0.12	0.122	102	0.123	102	75-125	1	20
Barium, Total	0.009J	2	2.02	101	1.96	98	75-125	3	20
Beryllium, Total	ND	0.05	0.051	101	0.049	98	75-125	3	20
Cadmium, Total	ND	0.053	0.050	95	0.050	94	75-125	1	20
Calcium, Total	5.86	10	15.2	93	14.8	89	75-125	3	20
Chromium, Total	ND	0.2	0.188	94	0.183	92	75-125	3	20
Cobalt, Total	ND	0.5	0.454	91	0.446	89	75-125	2	20
Copper, Total	ND	0.25	0.247	99	0.240	96	75-125	3	20
Iron, Total	0.446	1	1.36	91	1.32	87	75-125	3	20
Lead, Total	ND	0.53	0.504	95	0.502	95	75-125	0	20
Magnesium, Total	1.38	10	11.0	96	10.7	93	75-125	3	20
Manganese, Total	0.275	0.5	0.707	86	0.688	83	75-125	3	20
Nickel, Total	ND	0.5	0.461	92	0.453	91	75-125	2	20
Potassium, Total	1.32J	10	11.4	114	11.1	111	75-125	3	20
Selenium, Total	ND	0.12	0.123	102	0.122	102	75-125	1	20
Silver, Total	ND	0.05	0.047	94	0.046	93	75-125	2	20
Sodium, Total	22.4	10	32.0	96	31.1	87	75-125	3	20
Thallium, Total	ND	0.12	0.113	94	0.112	93	75-125	1	20
Vanadium, Total	ND	0.5	0.483	97	0.472	94	75-125	2	20

# **Matrix Spike Analysis** Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1645860-3 WG1645860-4 QC Sample: L2225687-05 Client ID: MS Sample									
Zinc, Total	ND	0.5	0.476	95	0.468	94	75-125	2	20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

### SAMPLE RESULTS

**Lab ID:** L2228679-01  
**Client ID:** BATTERY-TUNNEL-06012022  
**Sample Location:** 3875 RIVER RD.

**Date Collected:** 06/01/22 08:45  
**Date Received:** 06/01/22  
**Field Prep:** Not Specified

**Sample Depth:**  
**Matrix:** Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.213		mg/l	0.005	0.001	1	06/06/22 14:05	06/07/22 11:00	1,9010C/9012B	KP
Nitrogen, Ammonia	165.		mg/l	3.75	1.20	50	06/02/22 14:35	06/03/22 17:41	44,350.1	AT



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1645628-1										
Nitrogen, Ammonia	0.025	J	mg/l	0.075	0.024	1	06/02/22 14:35	06/03/22 17:38	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1647091-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	06/06/22 14:05	06/07/22 10:55	1,9010C/9012B	KP

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1645628-2								
Nitrogen, Ammonia	103		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1647091-2 WG1647091-3								
Cyanide, Total	97		102		85-115	5		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1645628-4 QC Sample: L2228679-01 Client ID: BATTERY-TUNNEL-06012022												
Nitrogen, Ammonia	165.	4	135	0	Q	-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1647091-4 WG1647091-5 QC Sample: L2228679-01 Client ID: BATTERY-TUNNEL-06012022												
Cyanide, Total	0.213	0.2	0.392	90		0.394	90		80-120	1		20

**Lab Duplicate Analysis**  
*Batch Quality Control*

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1645628-3 QC Sample: L2228679-01 Client ID: BATTERY-TUNNEL-06012022						
Nitrogen, Ammonia	165.	168	mg/l	2		20

**Project Name:** RITC**Lab Number:** L2228679**Project Number:** BATTERY TUNNEL**Report Date:** 06/07/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2228679-01A	Vial HCl preserved	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L2228679-01B	Vial HCl preserved	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L2228679-01C	Vial HCl preserved	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L2228679-01D	Plastic 250ml NaOH preserved	A	>12	>12	4.0	Y	Absent		TCN-9010(14)
L2228679-01E	Plastic 250ml HNO3 preserved	A	<2	<2	4.0	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),TL-TI(180),NI-TI(180),ZN-TI(180),SB-TI(180),PB-TI(180),SE-TI(180),CU-TI(180),V-TI(180),CO-TI(180),FE-TI(180),MG-TI(180),HG-T(28),MN-TI(180),K-TI(180),NA-TI(180),CD-TI(180),CA-TI(180)
L2228679-01F	Plastic 500ml H2SO4 preserved	A	>12	>12	4.0	Y	Absent		NH3-350(28)
L2228679-01G	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8270(7),NYTCL-8270-SIM(7)
L2228679-01H	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8270(7),NYTCL-8270-SIM(7)
L2228679-01I	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8082-1200ML(365)
L2228679-01J	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8082-1200ML(365)
L2228679-01K	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8082-1200ML(365)
L2228679-01L	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		NYTCL-8082-1200ML(365)

**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

## GLOSSARY

### Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

*Report Format: DU Report with 'J' Qualifiers*



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Difference:** With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PAH Total:** With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



**Project Name:** RITC  
**Project Number:** BATTERY TUNNEL

**Lab Number:** L2228679  
**Report Date:** 06/07/22

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 19

Published Date: 4/2/2021 1:14:23 PM

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**Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

**Westborough Facility****EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

L222 8679

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# EMSL Analytical, Inc.

490 Rowley Road Depew, NY 14043  
 Phone/Fax: (716) 651-0030 / (716) 651-0394  
<http://www.EMSL.com> / [buffalolab@emsl.com](mailto:buffalolab@emsl.com)

EMSL Order ID: 142202051  
 Customer ID: ALPH55  
 Customer PO:  
 Project ID:

**Attn:** Sub Reports  
 Alpha Analytical, Inc.  
 8 Walkup Drive  
 Westborough, MA 01581

**Phone:**  
**Fax:** (508) 898-9193  
**Received:** 06/01/2022  
**Analyzed:** 06/06/2022

**Proj:** L2228679

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10\mu\text{m}$ in Drinking Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm²)	Area Analyzed (mm²)	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits	
					MFL (million fibers per liter)					
Battery Tunnel 06012922 142202051-0001	6/2/2022 02:47 PM	1	1288	0.2620	≥ 0.5 µm	None Detected	ND	4.90	<4.90	0.00 - 18.00
					> 10 µm only	None Detected	ND	4.90	<4.90	0.00 - 18.00

Collection Date/Time: 06/01/2022 08:45 AM

Due to the excessive particulate, the analytical sensitivity was not reached.

### Analyst(s)

Tom Hanes

(1)

Rhonda McGee, Laboratory Manager  
 or Other Approved Signatory

Any questions please contact Rhonda McGee.

Initial report from: 06/07/2022 11:21:52

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Estimation of uncertainty is available on request. Sample collection performed by the client. Pre-cleaned sample containers are available for purchase from EMSL. Note if sample containers are provided by the client, acceptable bottle blank level is defined as  $\leq 0.01\text{MFL}$  for  $\geq 10\mu\text{m}$  fibers. ND=None Detected. No Fibers Detected: the value will be reported as less than 369% of the concentration equivalent to one fiber. 1 to 4 fibers: The result will be reported as less than the corresponding upper 95% confidence limit (Poisson). 5 to 30 fibers: Mean and 95% confidence intervals will be reported on the basis of the Poisson assumption. When more than 30 fibers are counted, both the Gaussian 95% confidence interval and the Poisson 95% confidence interval will be calculated. The large of these two intervals will be selected for data reporting. When the Gaussian 95% confidence interval is selected for data reporting, the Poisson will also be noted.

Samples analyzed by EMSL Analytical, Inc. Depew, NY NYS ELAP 11606

## Attachment B – Laboratory Report – Battery Brick





*Analytical Report For*  
**Inventum Engineering, P.C.**

*For Lab Project ID*

**221212**

*Referencing*

**Battery Brick**

*Prepared*

**Wednesday, March 30, 2022**

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

A handwritten signature in blue ink, appearing to read "KR Hansen", is written over a horizontal line. The signature is stylized, with the first letters of the first and last names being capitalized and prominent.

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

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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, March 30, 2022*

Page 1 of 40

**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 284	ug/Kg		3/25/2022 22:57
1,2,4,5-Tetrachlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,2,4-Trichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,2-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,3-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,4-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
2,2-Oxybis (1-chloropropane)	< 284	ug/Kg		3/25/2022 22:57
2,3,4,6-Tetrachlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4,5-Trichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4,6-Trichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dimethylphenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dinitrophenol	< 1140	ug/Kg		3/25/2022 22:57
2,4-Dinitrotoluene	< 284	ug/Kg		3/25/2022 22:57
2,6-Dinitrotoluene	< 284	ug/Kg		3/25/2022 22:57
2-Chloronaphthalene	< 284	ug/Kg		3/25/2022 22:57
2-Chlorophenol	< 284	ug/Kg		3/25/2022 22:57
2-Methylnapthalene	< 284	ug/Kg		3/25/2022 22:57
2-Methylphenol	< 284	ug/Kg		3/25/2022 22:57
2-Nitroaniline	< 284	ug/Kg		3/25/2022 22:57
2-Nitrophenol	< 284	ug/Kg		3/25/2022 22:57
3&4-Methylphenol	< 284	ug/Kg		3/25/2022 22:57
3,3'-Dichlorobenzidine	< 284	ug/Kg		3/25/2022 22:57
3-Nitroaniline	< 284	ug/Kg		3/25/2022 22:57
4,6-Dinitro-2-methylphenol	< 380	ug/Kg		3/25/2022 22:57
4-Bromophenyl phenyl ether	< 284	ug/Kg		3/25/2022 22:57
4-Chloro-3-methylphenol	< 284	ug/Kg		3/25/2022 22:57
4-Chloroaniline	< 284	ug/Kg		3/25/2022 22:57

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: 221212

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

4-Chlorophenyl phenyl ether	< 284	ug/Kg	3/25/2022 22:57
4-Nitroaniline	< 284	ug/Kg	3/25/2022 22:57
4-Nitrophenol	< 284	ug/Kg	3/25/2022 22:57
Acenaphthene	< 284	ug/Kg	3/25/2022 22:57
Acenaphthylene	< 284	ug/Kg	3/25/2022 22:57
Acetophenone	< 284	ug/Kg	3/25/2022 22:57
Anthracene	< 284	ug/Kg	3/25/2022 22:57
Atrazine	< 284	ug/Kg	3/25/2022 22:57
Benzaldehyde	< 284	ug/Kg	3/25/2022 22:57
Benzo (a) anthracene	< 284	ug/Kg	3/25/2022 22:57
Benzo (a) pyrene	< 284	ug/Kg	3/25/2022 22:57
Benzo (b) fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Benzo (g,h,i) perylene	< 284	ug/Kg	3/25/2022 22:57
Benzo (k) fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Bis (2-chloroethoxy) methane	< 284	ug/Kg	3/25/2022 22:57
Bis (2-chloroethyl) ether	< 284	ug/Kg	3/25/2022 22:57
Bis (2-ethylhexyl) phthalate	< 284	ug/Kg	3/25/2022 22:57
Butylbenzylphthalate	< 284	ug/Kg	3/25/2022 22:57
Caprolactam	< 284	ug/Kg	3/25/2022 22:57
Carbazole	< 284	ug/Kg	3/25/2022 22:57
Chrysene	< 284	ug/Kg	3/25/2022 22:57
Dibenz (a,h) anthracene	< 284	ug/Kg	3/25/2022 22:57
Dibenzofuran	< 284	ug/Kg	3/25/2022 22:57
Diethyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Dimethyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Di-n-butyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Di-n-octylphthalate	< 284	ug/Kg	3/25/2022 22:57
Fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Fluorene	< 284	ug/Kg	3/25/2022 22:57
Hexachlorobenzene	< 284	ug/Kg	3/25/2022 22:57

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Hexachlorobutadiene	< 284	ug/Kg	3/25/2022 22:57
Hexachlorocyclopentadiene	< 1140	ug/Kg	3/25/2022 22:57
Hexachloroethane	< 284	ug/Kg	3/25/2022 22:57
Indeno (1,2,3-cd) pyrene	< 284	ug/Kg	3/25/2022 22:57
Isophorone	< 284	ug/Kg	3/25/2022 22:57
Naphthalene	< 284	ug/Kg	3/25/2022 22:57
Nitrobenzene	< 284	ug/Kg	3/25/2022 22:57
N-Nitroso-di-n-propylamine	< 284	ug/Kg	3/25/2022 22:57
N-Nitrosodiphenylamine	< 284	ug/Kg	3/25/2022 22:57
Pentachlorophenol	< 568	ug/Kg	3/25/2022 22:57
Phenanthrene	< 284	ug/Kg	3/25/2022 22:57
Phenol	< 284	ug/Kg	3/25/2022 22:57
Pyrene	< 284	ug/Kg	3/25/2022 22:57

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>62.8</b>	35.4 - 92.4		3/25/2022 22:57
2-Fluorobiphenyl	<b>62.2</b>	39.6 - 84.4		3/25/2022 22:57
2-Fluorophenol	<b>50.3</b>	35.5 - 78.9		3/25/2022 22:57
Nitrobenzene-d5	<b>50.7</b>	36.5 - 78.2		3/25/2022 22:57
Phenol-d5	<b>55.1</b>	37.1 - 78.3		3/25/2022 22:57
Terphenyl-d14	<b>71.0</b>	42.3 - 103		3/25/2022 22:57

*Internal standard outliers indicate probable matrix interference*

**Method Reference(s):** EPA 8270D

EPA 3546

**Preparation Date:** 3/24/2022

**Data File:** B60684.D

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1,2,2-Tetrachloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1,2-Trichloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1-Dichloroethane	< 8.33	ug/Kg		3/29/2022 16:57

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,1-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
1,2,3-Trichlorobenzene	< 20.8	ug/Kg	3/29/2022 16:57
1,2,4-Trichlorobenzene	< 20.8	ug/Kg	3/29/2022 16:57
1,2-Dibromo-3-Chloropropane	< 41.7	ug/Kg	3/29/2022 16:57
1,2-Dibromoethane	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichloroethane	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichloropropane	< 8.33	ug/Kg	3/29/2022 16:57
1,3-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,4-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,4-Dioxane	< 41.7	ug/Kg	3/29/2022 16:57
2-Butanone	< 41.7	ug/Kg	3/29/2022 16:57
2-Hexanone	< 20.8	ug/Kg	3/29/2022 16:57
4-Methyl-2-pentanone	< 20.8	ug/Kg	3/29/2022 16:57
Acetone	< 41.7	ug/Kg	3/29/2022 16:57
Benzene	< 8.33	ug/Kg	3/29/2022 16:57
Bromochloromethane	< 20.8	ug/Kg	3/29/2022 16:57
Bromodichloromethane	< 8.33	ug/Kg	3/29/2022 16:57
Bromoform	< 20.8	ug/Kg	3/29/2022 16:57
Bromomethane	< 8.33	ug/Kg	3/29/2022 16:57
Carbon disulfide	< 8.33	ug/Kg	3/29/2022 16:57
Carbon Tetrachloride	< 8.33	ug/Kg	3/29/2022 16:57
Chlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
Chloroethane	< 8.33	ug/Kg	3/29/2022 16:57
Chloroform	< 8.33	ug/Kg	3/29/2022 16:57
Chloromethane	< 8.33	ug/Kg	3/29/2022 16:57
cis-1,2-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
cis-1,3-Dichloropropene	< 8.33	ug/Kg	3/29/2022 16:57
Cyclohexane	< 41.7	ug/Kg	3/29/2022 16:57
Dibromochloromethane	< 8.33	ug/Kg	3/29/2022 16:57

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: 221212

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

Dichlorodifluoromethane	< 8.33	ug/Kg	3/29/2022 16:57
Ethylbenzene	< 8.33	ug/Kg	3/29/2022 16:57
Freon 113	< 8.33	ug/Kg	3/29/2022 16:57
Isopropylbenzene	< 8.33	ug/Kg	3/29/2022 16:57
m,p-Xylene	< 8.33	ug/Kg	3/29/2022 16:57
Methyl acetate	< 8.33	ug/Kg	3/29/2022 16:57
Methyl tert-butyl Ether	< 8.33	ug/Kg	3/29/2022 16:57
Methylcyclohexane	< 8.33	ug/Kg	3/29/2022 16:57
Methylene chloride	< 20.8	ug/Kg	3/29/2022 16:57
o-Xylene	< 8.33	ug/Kg	3/29/2022 16:57
Styrene	< 20.8	ug/Kg	3/29/2022 16:57
Tetrachloroethene	< 8.33	ug/Kg	3/29/2022 16:57
Toluene	< 8.33	ug/Kg	3/29/2022 16:57
trans-1,2-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
trans-1,3-Dichloropropene	< 8.33	ug/Kg	3/29/2022 16:57
Trichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
Trichlorofluoromethane	< 8.33	ug/Kg	3/29/2022 16:57
Vinyl chloride	< 8.33	ug/Kg	3/29/2022 16:57

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	120	74.7 - 140		3/29/2022 16:57
4-Bromofluorobenzene	93.9	68 - 130		3/29/2022 16:57
Pentafluorobenzene	115	70.3 - 140		3/29/2022 16:57
Toluene-D8	119	69 - 138		3/29/2022 16:57

Method Reference(s): EPA 8260C  
EPA 5035A - L  
Data File: z08073.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

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Report Prepared Wednesday, March 30, 2022

Page 6 of 40

Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

**TCLP Semi-Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 17:46
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 17:46
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 17:46
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 17:46
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 17:46
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 17:46
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 17:46
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 17:46
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 17:46
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 17:46
Pyridine	< 40.0	ug/L	5000		3/28/2022 17:46

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	<b>90.3</b>	29.6 - 139		3/28/2022 17:46
2-Fluorobiphenyl	<b>69.5</b>	5 - 124		3/28/2022 17:46
2-Fluorophenol	<b>71.9</b>	10 - 122		3/28/2022 17:46
Nitrobenzene-d5	<b>65.8</b>	28.7 - 119		3/28/2022 17:46
Phenol-d5	<b>64.5</b>	10 - 115		3/28/2022 17:46
Terphenyl-d14	<b>80.4</b>	32.2 - 142		3/28/2022 17:46

Method Reference(s): EPA 8270D  
 EPA 1311 / 3510C  
 Preparation Date: 3/28/2022  
 Data File: B60704.D

**TCLP Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 15:59
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 15:59
2-Butanone	< 100	ug/L	200000		3/29/2022 15:59
Benzene	< 20.0	ug/L	500		3/29/2022 15:59

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Lab Project ID: 221212

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

**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 15:59
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 15:59
Chloroform	< 20.0	ug/L	6000	3/29/2022 15:59
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 15:59
Trichloroethene	< 20.0	ug/L	500	3/29/2022 15:59
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 15:59
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>118</b>	81.1 - 136		3/29/2022 15:59
4-Bromofluorobenzene	<b>98.0</b>	75.8 - 132		3/29/2022 15:59
Pentafluorobenzene	<b>114</b>	82 - 132		3/29/2022 15:59
Toluene-D8	<b>116</b>	64.6 - 137		3/29/2022 15:59

**Method Reference(s):** EPA 8260C  
EPA 1311 / 5030C  
**Data File:** z08070.D



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

**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 278	ug/Kg		3/25/2022 03:43
1,2,4,5-Tetrachlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,2,4-Trichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,2-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,3-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,4-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
2,2-Oxybis (1-chloropropane)	< 278	ug/Kg		3/25/2022 03:43
2,3,4,6-Tetrachlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4,5-Trichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4,6-Trichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dimethylphenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dinitrophenol	< 1110	ug/Kg		3/25/2022 03:43
2,4-Dinitrotoluene	< 278	ug/Kg		3/25/2022 03:43
2,6-Dinitrotoluene	< 278	ug/Kg		3/25/2022 03:43
2-Chloronaphthalene	< 278	ug/Kg		3/25/2022 03:43
2-Chlorophenol	< 278	ug/Kg		3/25/2022 03:43
2-Methylnapthalene	< 278	ug/Kg		3/25/2022 03:43
2-Methylphenol	< 278	ug/Kg		3/25/2022 03:43
2-Nitroaniline	< 278	ug/Kg		3/25/2022 03:43
2-Nitrophenol	< 278	ug/Kg		3/25/2022 03:43
3&4-Methylphenol	< 278	ug/Kg		3/25/2022 03:43
3,3'-Dichlorobenzidine	< 278	ug/Kg		3/25/2022 03:43
3-Nitroaniline	< 278	ug/Kg		3/25/2022 03:43
4,6-Dinitro-2-methylphenol	< 372	ug/Kg		3/25/2022 03:43
4-Bromophenyl phenyl ether	< 278	ug/Kg		3/25/2022 03:43
4-Chloro-3-methylphenol	< 278	ug/Kg		3/25/2022 03:43
4-Chloroaniline	< 278	ug/Kg		3/25/2022 03:43

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

4-Chlorophenyl phenyl ether	< 278	ug/Kg	3/25/2022 03:43
4-Nitroaniline	< 278	ug/Kg	3/25/2022 03:43
4-Nitrophenol	< 278	ug/Kg	3/25/2022 03:43
Acenaphthene	< 278	ug/Kg	3/25/2022 03:43
Acenaphthylene	< 278	ug/Kg	3/25/2022 03:43
Acetophenone	< 278	ug/Kg	3/25/2022 03:43
Anthracene	< 278	ug/Kg	3/25/2022 03:43
Atrazine	< 278	ug/Kg	3/25/2022 03:43
Benzaldehyde	< 278	ug/Kg	3/25/2022 03:43
Benzo (a) anthracene	< 278	ug/Kg	3/25/2022 03:43
Benzo (a) pyrene	< 278	ug/Kg	3/25/2022 03:43
Benzo (b) fluoranthene	< 278	ug/Kg	3/25/2022 03:43
Benzo (g,h,i) perylene	< 278	ug/Kg	3/25/2022 03:43
Benzo (k) fluoranthene	< 278	ug/Kg	3/25/2022 03:43
Bis (2-chloroethoxy) methane	< 278	ug/Kg	3/25/2022 03:43
Bis (2-chloroethyl) ether	< 278	ug/Kg	3/25/2022 03:43
Bis (2-ethylhexyl) phthalate	< 278	ug/Kg	3/25/2022 03:43
Butylbenzylphthalate	< 278	ug/Kg	3/25/2022 03:43
Caprolactam	< 278	ug/Kg	3/25/2022 03:43
Carbazole	< 278	ug/Kg	3/25/2022 03:43
Chrysene	<b>301</b>	ug/Kg	3/25/2022 03:43
Dibenz (a,h) anthracene	< 278	ug/Kg	3/25/2022 03:43
Dibenzofuran	< 278	ug/Kg	3/25/2022 03:43
Diethyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Dimethyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Di-n-butyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Di-n-octylphthalate	< 278	ug/Kg	3/25/2022 03:43
Fluoranthene	<b>499</b>	ug/Kg	3/25/2022 03:43
Fluorene	< 278	ug/Kg	3/25/2022 03:43
Hexachlorobenzene	< 278	ug/Kg	3/25/2022 03:43

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**Lab Project ID: 221212**
**Client:** Inventum Engineering, P.C.
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Hexachlorobutadiene	< 278	ug/Kg	3/25/2022 03:43
Hexachlorocyclopentadiene	< 1110	ug/Kg	3/25/2022 03:43
Hexachloroethane	< 278	ug/Kg	3/25/2022 03:43
Indeno (1,2,3-cd) pyrene	< 278	ug/Kg	3/25/2022 03:43
Isophorone	< 278	ug/Kg	3/25/2022 03:43
Naphthalene	< 278	ug/Kg	3/25/2022 03:43
Nitrobenzene	< 278	ug/Kg	3/25/2022 03:43
N-Nitroso-di-n-propylamine	< 278	ug/Kg	3/25/2022 03:43
N-Nitrosodiphenylamine	< 278	ug/Kg	3/25/2022 03:43
Pentachlorophenol	< 556	ug/Kg	3/25/2022 03:43
Phenanthrene	<b>431</b>	ug/Kg	3/25/2022 03:43
Phenol	< 278	ug/Kg	3/25/2022 03:43
Pyrene	< 278	ug/Kg	3/25/2022 03:43

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>62.6</b>	35.4 - 92.4		3/25/2022 03:43
2-Fluorobiphenyl	<b>46.8</b>	39.6 - 84.4		3/25/2022 03:43
2-Fluorophenol	<b>54.9</b>	35.5 - 78.9		3/25/2022 03:43
Nitrobenzene-d5	<b>40.3</b>	36.5 - 78.2		3/25/2022 03:43
Phenol-d5	<b>62.9</b>	37.1 - 78.3		3/25/2022 03:43
Terphenyl-d14	<b>62.8</b>	42.3 - 103		3/25/2022 03:43

**Method Reference(s):** EPA 8270D

EPA 3546

**Preparation Date:** 3/24/2022

**Data File:** B60650.D

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1,2,2-Tetrachloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1,2-Trichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1-Dichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1-Dichloroethene	< 9.62	ug/Kg		3/29/2022 17:16

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,2,3-Trichlorobenzene	< 24.0	ug/Kg	3/29/2022 17:16
1,2,4-Trichlorobenzene	< 24.0	ug/Kg	3/29/2022 17:16
1,2-Dibromo-3-Chloropropane	< 48.1	ug/Kg	3/29/2022 17:16
1,2-Dibromoethane	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichloroethane	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichloropropane	< 9.62	ug/Kg	3/29/2022 17:16
1,3-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,4-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,4-Dioxane	< 48.1	ug/Kg	3/29/2022 17:16
2-Butanone	< 48.1	ug/Kg	3/29/2022 17:16
2-Hexanone	< 24.0	ug/Kg	3/29/2022 17:16
4-Methyl-2-pentanone	< 24.0	ug/Kg	3/29/2022 17:16
Acetone	< 48.1	ug/Kg	3/29/2022 17:16
Benzene	< 9.62	ug/Kg	3/29/2022 17:16
Bromochloromethane	< 24.0	ug/Kg	3/29/2022 17:16
Bromodichloromethane	< 9.62	ug/Kg	3/29/2022 17:16
Bromoform	< 24.0	ug/Kg	3/29/2022 17:16
Bromomethane	< 9.62	ug/Kg	3/29/2022 17:16
Carbon disulfide	< 9.62	ug/Kg	3/29/2022 17:16
Carbon Tetrachloride	< 9.62	ug/Kg	3/29/2022 17:16
Chlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
Chloroethane	< 9.62	ug/Kg	3/29/2022 17:16
Chloroform	< 9.62	ug/Kg	3/29/2022 17:16
Chloromethane	< 9.62	ug/Kg	3/29/2022 17:16
cis-1,2-Dichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
cis-1,3-Dichloropropene	< 9.62	ug/Kg	3/29/2022 17:16
Cyclohexane	< 48.1	ug/Kg	3/29/2022 17:16
Dibromochloromethane	< 9.62	ug/Kg	3/29/2022 17:16
Dichlorodifluoromethane	< 9.62	ug/Kg	3/29/2022 17:16

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Ethylbenzene	< 9.62	ug/Kg	3/29/2022 17:16
Freon 113	< 9.62	ug/Kg	3/29/2022 17:16
Isopropylbenzene	< 9.62	ug/Kg	3/29/2022 17:16
m,p-Xylene	< 9.62	ug/Kg	3/29/2022 17:16
Methyl acetate	< 9.62	ug/Kg	3/29/2022 17:16
Methyl tert-butyl Ether	< 9.62	ug/Kg	3/29/2022 17:16
Methylcyclohexane	< 9.62	ug/Kg	3/29/2022 17:16
Methylene chloride	< 24.0	ug/Kg	3/29/2022 17:16
o-Xylene	< 9.62	ug/Kg	3/29/2022 17:16
Styrene	< 24.0	ug/Kg	3/29/2022 17:16
Tetrachloroethene	< 9.62	ug/Kg	3/29/2022 17:16
Toluene	< 9.62	ug/Kg	3/29/2022 17:16
trans-1,2-Dichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
trans-1,3-Dichloropropene	< 9.62	ug/Kg	3/29/2022 17:16
Trichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
Trichlorofluoromethane	< 9.62	ug/Kg	3/29/2022 17:16
Vinyl chloride	< 9.62	ug/Kg	3/29/2022 17:16
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b> <b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>121</b>	74.7 - 140	3/29/2022 17:16
4-Bromofluorobenzene	<b>94.1</b>	68 - 130	3/29/2022 17:16
Pentafluorobenzene	<b>115</b>	70.3 - 140	3/29/2022 17:16
Toluene-D8	<b>121</b>	69 - 138	3/29/2022 17:16

**Method Reference(s):** EPA 8260C  
 EPA 5035A - L

**Data File:** z08074.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Red-03222022

Lab Sample ID: 221212-02A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

### **TCLP Semi-Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 18:15
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 18:15
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 18:15
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 18:15
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 18:15
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 18:15
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 18:15
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 18:15
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 18:15
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 18:15
Pyridine	< 40.0	ug/L	5000		3/28/2022 18:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	92.9	29.6 - 139		3/28/2022 18:15
2-Fluorobiphenyl	72.6	5 - 124		3/28/2022 18:15
2-Fluorophenol	72.6	10 - 122		3/28/2022 18:15
Nitrobenzene-d5	65.2	28.7 - 119		3/28/2022 18:15
Phenol-d5	65.5	10 - 115		3/28/2022 18:15
Terphenyl-d14	80.3	32.2 - 142		3/28/2022 18:15

Method Reference(s): EPA 8270D  
 EPA 1311 / 3510C  
 Preparation Date: 3/28/2022  
 Data File: B60705.D

### **TCLP Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 16:18
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 16:18
2-Butanone	< 100	ug/L	200000		3/29/2022 16:18
Benzene	< 20.0	ug/L	500		3/29/2022 16:18

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: 221212

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

**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 16:18
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 16:18
Chloroform	< 20.0	ug/L	6000	3/29/2022 16:18
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 16:18
Trichloroethene	< 20.0	ug/L	500	3/29/2022 16:18
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 16:18
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>126</b>	81.1 - 136		3/29/2022 16:18
4-Bromofluorobenzene	<b>98.9</b>	75.8 - 132		3/29/2022 16:18
Pentafluorobenzene	<b>115</b>	82 - 132		3/29/2022 16:18
Toluene-D8	<b>122</b>	64.6 - 137		3/29/2022 16:18

**Method Reference(s):** EPA 8260C  
EPA 1311 / 5030C  
**Data File:** z08071.D

**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 269	ug/Kg		3/25/2022 04:12
1,2,4,5-Tetrachlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,2,4-Trichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,2-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,3-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,4-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
2,2-Oxybis (1-chloropropane)	< 269	ug/Kg		3/25/2022 04:12
2,3,4,6-Tetrachlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4,5-Trichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4,6-Trichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dimethylphenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dinitrophenol	< 1080	ug/Kg		3/25/2022 04:12
2,4-Dinitrotoluene	< 269	ug/Kg		3/25/2022 04:12
2,6-Dinitrotoluene	< 269	ug/Kg		3/25/2022 04:12
2-Chloronaphthalene	< 269	ug/Kg		3/25/2022 04:12
2-Chlorophenol	< 269	ug/Kg		3/25/2022 04:12
2-Methylnapthalene	< 269	ug/Kg		3/25/2022 04:12
2-Methylphenol	< 269	ug/Kg		3/25/2022 04:12
2-Nitroaniline	< 269	ug/Kg		3/25/2022 04:12
2-Nitrophenol	< 269	ug/Kg		3/25/2022 04:12
3&4-Methylphenol	< 269	ug/Kg		3/25/2022 04:12
3,3'-Dichlorobenzidine	< 269	ug/Kg		3/25/2022 04:12
3-Nitroaniline	< 269	ug/Kg		3/25/2022 04:12
4,6-Dinitro-2-methylphenol	< 360	ug/Kg		3/25/2022 04:12
4-Bromophenyl phenyl ether	< 269	ug/Kg		3/25/2022 04:12
4-Chloro-3-methylphenol	< 269	ug/Kg		3/25/2022 04:12
4-Chloroaniline	< 269	ug/Kg		3/25/2022 04:12

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**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

4-Chlorophenyl phenyl ether	< 269	ug/Kg	3/25/2022 04:12
4-Nitroaniline	< 269	ug/Kg	3/25/2022 04:12
4-Nitrophenol	< 269	ug/Kg	3/25/2022 04:12
Acenaphthene	< 269	ug/Kg	3/25/2022 04:12
Acenaphthylene	< 269	ug/Kg	3/25/2022 04:12
Acetophenone	< 269	ug/Kg	3/25/2022 04:12
Anthracene	< 269	ug/Kg	3/25/2022 04:12
Atrazine	< 269	ug/Kg	3/25/2022 04:12
Benzaldehyde	< 269	ug/Kg	3/25/2022 04:12
Benzo (a) anthracene	< 269	ug/Kg	3/25/2022 04:12
Benzo (a) pyrene	< 269	ug/Kg	3/25/2022 04:12
Benzo (b) fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Benzo (g,h,i) perylene	< 269	ug/Kg	3/25/2022 04:12
Benzo (k) fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Bis (2-chloroethoxy) methane	< 269	ug/Kg	3/25/2022 04:12
Bis (2-chloroethyl) ether	< 269	ug/Kg	3/25/2022 04:12
Bis (2-ethylhexyl) phthalate	< 269	ug/Kg	3/25/2022 04:12
Butylbenzylphthalate	< 269	ug/Kg	3/25/2022 04:12
Caprolactam	< 269	ug/Kg	3/25/2022 04:12
Carbazole	< 269	ug/Kg	3/25/2022 04:12
Chrysene	< 269	ug/Kg	3/25/2022 04:12
Dibenz (a,h) anthracene	< 269	ug/Kg	3/25/2022 04:12
Dibenzofuran	< 269	ug/Kg	3/25/2022 04:12
Diethyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Dimethyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Di-n-butyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Di-n-octylphthalate	< 269	ug/Kg	3/25/2022 04:12
Fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Fluorene	< 269	ug/Kg	3/25/2022 04:12
Hexachlorobenzene	< 269	ug/Kg	3/25/2022 04:12

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: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Yelw-03222022

Lab Sample ID: 221212-03

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

Hexachlorobutadiene	< 269	ug/Kg	3/25/2022 04:12
Hexachlorocyclopentadiene	< 1080	ug/Kg	3/25/2022 04:12
Hexachloroethane	< 269	ug/Kg	3/25/2022 04:12
Indeno (1,2,3-cd) pyrene	< 269	ug/Kg	3/25/2022 04:12
Isophorone	< 269	ug/Kg	3/25/2022 04:12
Naphthalene	< 269	ug/Kg	3/25/2022 04:12
Nitrobenzene	< 269	ug/Kg	3/25/2022 04:12
N-Nitroso-di-n-propylamine	< 269	ug/Kg	3/25/2022 04:12
N-Nitrosodiphenylamine	< 269	ug/Kg	3/25/2022 04:12
Pentachlorophenol	< 538	ug/Kg	3/25/2022 04:12
Phenanthrene	< 269	ug/Kg	3/25/2022 04:12
Phenol	< 269	ug/Kg	3/25/2022 04:12
Pyrene	< 269	ug/Kg	3/25/2022 04:12

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	56.8	35.4 - 92.4		3/25/2022 04:12
2-Fluorobiphenyl	40.5	39.6 - 84.4		3/25/2022 04:12
2-Fluorophenol	45.1	35.5 - 78.9		3/25/2022 04:12
Nitrobenzene-d5	35.1	36.5 - 78.2	*	3/25/2022 04:12
Phenol-d5	47.7	37.1 - 78.3		3/25/2022 04:12
Terphenyl-d14	59.9	42.3 - 103		3/25/2022 04:12

Method Reference(s): EPA 8270D

EPA 3546

Preparation Date: 3/24/2022

Data File: B60651.D

### **Volatile Organics**

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1,2,2-Tetrachloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1,2-Trichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1-Dichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1-Dichloroethene	< 5.71	ug/Kg		3/29/2022 17:35

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,2,3-Trichlorobenzene	< 14.3	ug/Kg	3/29/2022 17:35
1,2,4-Trichlorobenzene	< 14.3	ug/Kg	3/29/2022 17:35
1,2-Dibromo-3-Chloropropane	< 28.6	ug/Kg	3/29/2022 17:35
1,2-Dibromoethane	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichloroethane	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichloropropane	< 5.71	ug/Kg	3/29/2022 17:35
1,3-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,4-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,4-Dioxane	< 28.6	ug/Kg	3/29/2022 17:35
2-Butanone	< 28.6	ug/Kg	3/29/2022 17:35
2-Hexanone	< 14.3	ug/Kg	3/29/2022 17:35
4-Methyl-2-pentanone	< 14.3	ug/Kg	3/29/2022 17:35
Acetone	< 28.6	ug/Kg	3/29/2022 17:35
Benzene	< 5.71	ug/Kg	3/29/2022 17:35
Bromochloromethane	< 14.3	ug/Kg	3/29/2022 17:35
Bromodichloromethane	< 5.71	ug/Kg	3/29/2022 17:35
Bromoform	< 14.3	ug/Kg	3/29/2022 17:35
Bromomethane	< 5.71	ug/Kg	3/29/2022 17:35
Carbon disulfide	< 5.71	ug/Kg	3/29/2022 17:35
Carbon Tetrachloride	< 5.71	ug/Kg	3/29/2022 17:35
Chlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
Chloroethane	< 5.71	ug/Kg	3/29/2022 17:35
Chloroform	< 5.71	ug/Kg	3/29/2022 17:35
Chloromethane	< 5.71	ug/Kg	3/29/2022 17:35
cis-1,2-Dichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
cis-1,3-Dichloropropene	< 5.71	ug/Kg	3/29/2022 17:35
Cyclohexane	< 28.6	ug/Kg	3/29/2022 17:35
Dibromochloromethane	< 5.71	ug/Kg	3/29/2022 17:35
Dichlorodifluoromethane	< 5.71	ug/Kg	3/29/2022 17:35

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Ethylbenzene	< 5.71	ug/Kg	3/29/2022 17:35
Freon 113	< 5.71	ug/Kg	3/29/2022 17:35
Isopropylbenzene	< 5.71	ug/Kg	3/29/2022 17:35
m,p-Xylene	< 5.71	ug/Kg	3/29/2022 17:35
Methyl acetate	< 5.71	ug/Kg	3/29/2022 17:35
Methyl tert-butyl Ether	< 5.71	ug/Kg	3/29/2022 17:35
Methylcyclohexane	< 5.71	ug/Kg	3/29/2022 17:35
Methylene chloride	< 14.3	ug/Kg	3/29/2022 17:35
o-Xylene	< 5.71	ug/Kg	3/29/2022 17:35
Styrene	< 14.3	ug/Kg	3/29/2022 17:35
Tetrachloroethene	< 5.71	ug/Kg	3/29/2022 17:35
Toluene	< 5.71	ug/Kg	3/29/2022 17:35
trans-1,2-Dichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
trans-1,3-Dichloropropene	< 5.71	ug/Kg	3/29/2022 17:35
Trichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
Trichlorofluoromethane	< 5.71	ug/Kg	3/29/2022 17:35
Vinyl chloride	< 5.71	ug/Kg	3/29/2022 17:35
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b> <b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>120</b>	74.7 - 140	3/29/2022 17:35
4-Bromofluorobenzene	<b>91.7</b>	68 - 130	3/29/2022 17:35
Pentafluorobenzene	<b>116</b>	70.3 - 140	3/29/2022 17:35
Toluene-D8	<b>121</b>	69 - 138	3/29/2022 17:35

**Method Reference(s):** EPA 8260C  
 EPA 5035A - L

**Data File:** z08075.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Yelw-03222022

Lab Sample ID: 221212-03A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

**TCLP Semi-Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 18:44
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 18:44
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 18:44
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 18:44
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 18:44
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 18:44
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 18:44
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 18:44
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 18:44
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 18:44
Pyridine	< 40.0	ug/L	5000		3/28/2022 18:44

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	92.0	29.6 - 139		3/28/2022 18:44
2-Fluorobiphenyl	70.0	5 - 124		3/28/2022 18:44
2-Fluorophenol	72.8	10 - 122		3/28/2022 18:44
Nitrobenzene-d5	67.4	28.7 - 119		3/28/2022 18:44
Phenol-d5	67.1	10 - 115		3/28/2022 18:44
Terphenyl-d14	81.1	32.2 - 142		3/28/2022 18:44

Method Reference(s): EPA 8270D  
 EPA 1311 / 3510C  
 Preparation Date: 3/28/2022  
 Data File: B60706.D

**TCLP Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 16:37
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 16:37
2-Butanone	< 100	ug/L	200000		3/29/2022 16:37
Benzene	< 20.0	ug/L	500		3/29/2022 16:37

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 16:37
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 16:37
Chloroform	< 20.0	ug/L	6000	3/29/2022 16:37
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 16:37
Trichloroethene	< 20.0	ug/L	500	3/29/2022 16:37
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 16:37
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>122</b>	81.1 - 136		3/29/2022 16:37
4-Bromofluorobenzene	<b>93.9</b>	75.8 - 132		3/29/2022 16:37
Pentafluorobenzene	<b>116</b>	82 - 132		3/29/2022 16:37
Toluene-D8	<b>122</b>	64.6 - 137		3/29/2022 16:37

**Method Reference(s):** EPA 8260C  
 EPA 1311 / 5030C  
**Data File:** z08072.D



**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

**Semi-Volatile Organics (Acid/Base Neutrals)**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1-Biphenyl	<278	ug/Kg		3/24/2022 22:55
1,2,4,5-Tetrachlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,2,4-Trichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,2-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,3-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,4-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
2,2-Oxybis (1-chloropropane)	<278	ug/Kg		3/24/2022 22:55
2,3,4,6-Tetrachlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4,5-Trichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4,6-Trichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dimethylphenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dinitrophenol	<1110	ug/Kg		3/24/2022 22:55
2,4-Dinitrotoluene	<278	ug/Kg		3/24/2022 22:55
2,6-Dinitrotoluene	<278	ug/Kg		3/24/2022 22:55
2-Chloronaphthalene	<278	ug/Kg		3/24/2022 22:55
2-Chlorophenol	<278	ug/Kg		3/24/2022 22:55
2-Methylnapthalene	<278	ug/Kg		3/24/2022 22:55
2-Methylphenol	<278	ug/Kg		3/24/2022 22:55
2-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
2-Nitrophenol	<278	ug/Kg		3/24/2022 22:55
3&4-Methylphenol	<278	ug/Kg		3/24/2022 22:55
3,3'-Dichlorobenzidine	<278	ug/Kg		3/24/2022 22:55
3-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
4,6-Dinitro-2-methylphenol	<556	ug/Kg		3/24/2022 22:55
4-Bromophenyl phenyl ether	<278	ug/Kg		3/24/2022 22:55
4-Chloro-3-methylphenol	<278	ug/Kg		3/24/2022 22:55

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***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Semi-Volatile Organics (Acid/Base Neutrals)***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
4-Chloroaniline	<278	ug/Kg		3/24/2022 22:55
4-Chlorophenyl phenyl ether	<278	ug/Kg		3/24/2022 22:55
4-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
4-Nitrophenol	<278	ug/Kg		3/24/2022 22:55
Acenaphthene	<278	ug/Kg		3/24/2022 22:55
Acenaphthylene	<278	ug/Kg		3/24/2022 22:55
Acetophenone	<278	ug/Kg		3/24/2022 22:55
Anthracene	<278	ug/Kg		3/24/2022 22:55
Atrazine	<278	ug/Kg		3/24/2022 22:55
Benzaldehyde	<278	ug/Kg		3/24/2022 22:55
Benzo (a) anthracene	<278	ug/Kg		3/24/2022 22:55
Benzo (a) pyrene	<278	ug/Kg		3/24/2022 22:55
Benzo (b) fluoranthene	<278	ug/Kg		3/24/2022 22:55
Benzo (g,h,i) perylene	<278	ug/Kg		3/24/2022 22:55
Benzo (k) fluoranthene	<278	ug/Kg		3/24/2022 22:55
Bis (2-chloroethoxy) methane	<278	ug/Kg		3/24/2022 22:55
Bis (2-chloroethyl) ether	<278	ug/Kg		3/24/2022 22:55
Bis (2-ethylhexyl) phthalate	<278	ug/Kg		3/24/2022 22:55
Butylbenzylphthalate	<278	ug/Kg		3/24/2022 22:55
Caprolactam	<278	ug/Kg		3/24/2022 22:55
Carbazole	<278	ug/Kg		3/24/2022 22:55
Chrysene	<278	ug/Kg		3/24/2022 22:55
Dibenz (a,h) anthracene	<278	ug/Kg		3/24/2022 22:55
Dibenzofuran	<278	ug/Kg		3/24/2022 22:55
Diethyl phthalate	<278	ug/Kg		3/24/2022 22:55
Dimethyl phthalate	<278	ug/Kg		3/24/2022 22:55
Di-n-butyl phthalate	<278	ug/Kg		3/24/2022 22:55
Di-n-octylphthalate	<278	ug/Kg		3/24/2022 22:55

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**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

**Semi-Volatile Organics (Acid/Base Neutrals)**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Fluoranthene	<278	ug/Kg		3/24/2022 22:55
Fluorene	<278	ug/Kg		3/24/2022 22:55
Hexachlorobenzene	<278	ug/Kg		3/24/2022 22:55
Hexachlorobutadiene	<278	ug/Kg		3/24/2022 22:55
Hexachlorocyclopentadiene	<1110	ug/Kg		3/24/2022 22:55
Hexachloroethane	<278	ug/Kg		3/24/2022 22:55
Indeno (1,2,3-cd) pyrene	<278	ug/Kg		3/24/2022 22:55
Isophorone	<278	ug/Kg		3/24/2022 22:55
Naphthalene	<278	ug/Kg		3/24/2022 22:55
Nitrobenzene	<278	ug/Kg		3/24/2022 22:55
N-Nitroso-di-n-propylamine	<278	ug/Kg		3/24/2022 22:55
N-Nitrosodiphenylamine	<278	ug/Kg		3/24/2022 22:55
Pentachlorophenol	<556	ug/Kg		3/24/2022 22:55
Phenanthrene	<278	ug/Kg		3/24/2022 22:55
Phenol	<278	ug/Kg		3/24/2022 22:55
Pyrene	<278	ug/Kg		3/24/2022 22:55

**Method Reference(s):** EPA 8270D  
EPA 3546  
**Preparation Date:** 3/24/2022  
**Data File:** B60640.D  
**QC Batch ID:** QC220324ABNS  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*QC Report for Laboratory Control Sample*

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

*Semi-Volatile Organics (Acid/Base Neutrals)*

Analyte	Spike	Spike	LCS	LCS %	% Rec	LCS	Date
	Added	Units	Result	Recovery	Limits	Outliers	Analyzed
1,2,4-Trichlorobenzene	2650	ug/Kg	1480	55.8	36.4 - 88		3/24/2022
1,4-Dichlorobenzene	2650	ug/Kg	1420	53.6	34.3 - 78.9		3/24/2022
2,4-Dinitrotoluene	2650	ug/Kg	1560	59.0	40.2 - 99.7		3/24/2022
2-Chlorophenol	3970	ug/Kg	2480	62.6	49.5 - 80.8		3/24/2022
4-Chloro-3-methylphenol	3970	ug/Kg	2630	66.4	52.2 - 87.8		3/24/2022
4-Nitrophenol	3970	ug/Kg	1780	44.9	23.3 - 102		3/24/2022
Acenaphthene	2650	ug/Kg	1640	62.0	43.5 - 87.2		3/24/2022
N-Nitroso-di-n-propylamine	2650	ug/Kg	1470	55.5	32.6 - 89.2		3/24/2022
Pentachlorophenol	3970	ug/Kg	2280	57.3	41.8 - 107		3/24/2022
Phenol	3970	ug/Kg	2470	62.3	48.8 - 79.3		3/24/2022
Pyrene	2650	ug/Kg	1790	67.5	47.1 - 104		3/24/2022

**Method Reference(s):** EPA 8270D  
EPA 3546  
**Preparation Date:** 3/24/2022  
**Data File:** B60641.D  
**QC Number:** LCS 1  
**QC Batch ID:** QC220324ABNS

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.



**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

**TCLP Semi-Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,4-Dichlorobenzene	<40.0	ug/L		3/28/2022 16:19
2,4,5-Trichlorophenol	<40.0	ug/L		3/28/2022 16:19
2,4,6-Trichlorophenol	<40.0	ug/L		3/28/2022 16:19
2,4-Dinitrotoluene	<40.0	ug/L		3/28/2022 16:19
Cresols (as m,p,o-Cresol)	<80.0	ug/L		3/28/2022 16:19
Hexachlorobenzene	<40.0	ug/L		3/28/2022 16:19
Hexachlorobutadiene	<40.0	ug/L		3/28/2022 16:19
Hexachloroethane	<40.0	ug/L		3/28/2022 16:19
Nitrobenzene	<40.0	ug/L		3/28/2022 16:19
Pentachlorophenol	<80.0	ug/L		3/28/2022 16:19
Pyridine	<40.0	ug/L		3/28/2022 16:19

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
2,4,6-Tribromophenol	88.1	29.6 - 139		3/28/2022 16:19
2-Fluorobiphenyl	62.6	5 - 124		3/28/2022 16:19
2-Fluorophenol	71.5	10 - 122		3/28/2022 16:19
Nitrobenzene-d5	64.9	28.7 - 119		3/28/2022 16:19
Phenol-d5	65.5	10 - 115		3/28/2022 16:19
Terphenyl-d14	78.7	32.2 - 142		3/28/2022 16:19

**Method Reference(s):** EPA 8270D  
EPA 3510C  
**Preparation Date:** 3/28/2022  
**Data File:** B60701.D  
**QC Batch ID:** QC220328ABNT  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*QC Report for Laboratory Control Sample and Control Sample Duplicate*

**Client:**

Inventum Engineering, P.C.

**Project Reference:**

Battery Brick

**Lab Project ID:**

221212

**Matrix:**

TCLP Fluid

***TCLP Semi-Volatile Organics***

Analyte	<u>Added</u>	<u>Added</u>	<u>Units</u>	<u>Result</u>	<u>Result</u>	<u>Recovery</u>	<u>Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Outliers</u>	<u>Difference</u>	<u>Limit</u>	<u>Outliers</u>	<u>Date</u>
	<u>LCS</u>	<u>LCSD</u>	<u>Spike</u>	<u>LCS</u>	<u>LCSD</u>	<u>LCS %</u>	<u>LCSD %</u>	<u>% Rec</u>	<u>LCS</u>	<u>LCSD</u>	<u>Relative %</u>	<u>RPD</u>	<u>RPD</u>	
1,4-Dichlorobenzene	200	200	ug/L	156	156	78.2	77.8	27.5 - 93.4			0.568	71.3		3/28/2022
2,4,6-Trichlorophenol	300	300	ug/L	285	276	95.0	92.1	50.5 - 126			3.17	61.9		3/28/2022
2,4-Dinitrotoluene	200	200	ug/L	188	183	93.9	91.3	55.2 - 112			2.79	40.9		3/28/2022
Pentachlorophenol	300	300	ug/L	299	298	99.6	99.2	26.5 - 160			0.427	120		3/28/2022

**Method Reference(s):**

EPA 8270D  
EPA 3510C

**Preparation Date:**

3/28/2022

**Data File:**

B60702.D  
B60703.D

**QC Number:**

1

**QC Batch ID:**

QC220328ABNT

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*Report Prepared Tuesday, March 29, 2022*



***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1,2,2-Tetrachloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1,2-Trichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1-Dichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
1,2,3-Trichlorobenzene	<5.00	ug/Kg		3/29/2022 14:07
1,2,4-Trichlorobenzene	<5.00	ug/Kg		3/29/2022 14:07
1,2-Dibromo-3-Chloropropane	<10.0	ug/Kg		3/29/2022 14:07
1,2-Dibromoethane	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichloropropane	<2.00	ug/Kg		3/29/2022 14:07
1,3-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,4-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,4-Dioxane	<10.0	ug/Kg		3/29/2022 14:07
2-Butanone	<10.0	ug/Kg		3/29/2022 14:07
2-Hexanone	<5.00	ug/Kg		3/29/2022 14:07
4-Methyl-2-pentanone	<5.00	ug/Kg		3/29/2022 14:07
Acetone	<10.0	ug/Kg		3/29/2022 14:07
Benzene	<2.00	ug/Kg		3/29/2022 14:07
Bromochloromethane	<5.00	ug/Kg		3/29/2022 14:07
Bromodichloromethane	<2.00	ug/Kg		3/29/2022 14:07
Bromoform	<5.00	ug/Kg		3/29/2022 14:07
Bromomethane	<2.00	ug/Kg		3/29/2022 14:07
Carbon disulfide	<2.00	ug/Kg		3/29/2022 14:07
Carbon Tetrachloride	<2.00	ug/Kg		3/29/2022 14:07
Chlorobenzene	<2.00	ug/Kg		3/29/2022 14:07

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***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Chloroethane	<2.00	ug/Kg		3/29/2022 14:07
Chloroform	<2.00	ug/Kg		3/29/2022 14:07
Chloromethane	<2.00	ug/Kg		3/29/2022 14:07
cis-1,2-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
cis-1,3-Dichloropropene	<2.00	ug/Kg		3/29/2022 14:07
Cyclohexane	<10.0	ug/Kg		3/29/2022 14:07
Dibromochloromethane	<2.00	ug/Kg		3/29/2022 14:07
Dichlorodifluoromethane	<2.00	ug/Kg		3/29/2022 14:07
Ethylbenzene	<2.00	ug/Kg		3/29/2022 14:07
Freon 113	<2.00	ug/Kg		3/29/2022 14:07
Isopropylbenzene	<2.00	ug/Kg		3/29/2022 14:07
m,p-Xylene	<2.00	ug/Kg		3/29/2022 14:07
Methyl acetate	<2.00	ug/Kg		3/29/2022 14:07
Methyl tert-butyl Ether	<2.00	ug/Kg		3/29/2022 14:07
Methylcyclohexane	<2.00	ug/Kg		3/29/2022 14:07
Methylene chloride	<5.00	ug/Kg		3/29/2022 14:07
o-Xylene	<2.00	ug/Kg		3/29/2022 14:07
Styrene	<5.00	ug/Kg		3/29/2022 14:07
Tetrachloroethene	<2.00	ug/Kg		3/29/2022 14:07
Toluene	<2.00	ug/Kg		3/29/2022 14:07
trans-1,2-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
trans-1,3-Dichloropropene	<2.00	ug/Kg		3/29/2022 14:07
Trichloroethene	<2.00	ug/Kg		3/29/2022 14:07
Trichlorofluoromethane	<2.00	ug/Kg		3/29/2022 14:07
Vinyl chloride	<2.00	ug/Kg		3/29/2022 14:07

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***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
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<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	124	74.7 - 140		3/29/2022 14:07
4-Bromofluorobenzene	94.2	68 - 130		3/29/2022 14:07
Pentafluorobenzene	116	70.3 - 140		3/29/2022 14:07
Toluene-D8	122	69 - 138		3/29/2022 14:07

**Method Reference(s):** EPA 8260C  
EPA 5035A - L  
**Data File:** z08065.D  
**QC Batch ID:** voas220329  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

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

**Project Reference:** Battery Brick

**Lab Project ID:** 221212

**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	20.0	ug/Kg	21.4	107	70.9 - 135		3/29/2022
1,1,2,2-Tetrachloroethane	20.0	ug/Kg	19.5	97.3	31.6 - 154		3/29/2022
1,1,2-Trichloroethane	20.0	ug/Kg	21.3	107	62 - 132		3/29/2022
1,1-Dichloroethane	20.0	ug/Kg	21.0	105	73 - 128		3/29/2022
1,1-Dichloroethene	20.0	ug/Kg	19.9	99.6	61.7 - 119		3/29/2022
1,2-Dichlorobenzene	20.0	ug/Kg	18.8	94.1	61 - 118		3/29/2022
1,2-Dichloropropane	20.0	ug/Kg	22.0	110	73.4 - 123		3/29/2022
1,2-Dichloroethane	20.0	ug/Kg	21.3	107	71.3 - 123		3/29/2022
1,3-Dichlorobenzene	20.0	ug/Kg	18.2	91.2	68.7 - 112		3/29/2022
1,4-Dichlorobenzene	20.0	ug/Kg	18.3	91.6	66.9 - 113		3/29/2022
Benzene	20.0	ug/Kg	22.2	111	77.8 - 119		3/29/2022
Bromodichloromethane	20.0	ug/Kg	21.5	108	65.7 - 125		3/29/2022
Bromoform	20.0	ug/Kg	18.5	92.5	54.7 - 130		3/29/2022
Bromomethane	20.0	ug/Kg	16.5	82.7	44.6 - 167		3/29/2022
Carbon Tetrachloride	20.0	ug/Kg	21.2	106	61.8 - 138		3/29/2022
Chlorobenzene	20.0	ug/Kg	19.9	99.7	77.2 - 108		3/29/2022

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**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

**Client:**

Inventum Engineering, P.C.

**Project Reference:**

Battery Brick

**Lab Project ID:**

221212

**Matrix:**

Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chloroethane	20.0	ug/Kg	18.9	94.4	55.5 - 151		3/29/2022
Chloroform	20.0	ug/Kg	21.5	108	70.1 - 134		3/29/2022
Chloromethane	20.0	ug/Kg	15.3	76.6	42.4 - 168		3/29/2022
cis-1,3-Dichloropropene	20.0	ug/Kg	21.3	107	66.7 - 122		3/29/2022
Dibromochloromethane	20.0	ug/Kg	21.0	105	61.2 - 130		3/29/2022
Ethylbenzene	20.0	ug/Kg	19.4	97.0	71.6 - 112		3/29/2022
Methylene chloride	20.0	ug/Kg	20.2	101	38.2 - 155		3/29/2022
Tetrachloroethene	20.0	ug/Kg	21.7	109	61.4 - 137		3/29/2022
Toluene	20.0	ug/Kg	22.0	110	71.1 - 124		3/29/2022
trans-1,2-Dichloroethene	20.0	ug/Kg	20.8	104	67.3 - 127		3/29/2022
trans-1,3-Dichloropropene	20.0	ug/Kg	21.6	108	55 - 126		3/29/2022
Trichloroethene	20.0	ug/Kg	22.3	111	69.3 - 128		3/29/2022
Trichlorofluoromethane	20.0	ug/Kg	19.1	95.5	64 - 140		3/29/2022
Vinyl chloride	20.0	ug/Kg	16.3	81.4	51.2 - 160		3/29/2022

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.



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

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

**Project Reference:** Battery Brick

**Lab Project ID:** 221212

**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
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**Method Reference(s):** EPA 8260C  
EPA 5035A - L

**Data File:** z08064.D

**QC Number:** LCS 1

**QC Batch ID:** voas220329

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, March 30, 2022*



**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

**TCLP Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1-Dichloroethene	<20.0	ug/L		3/29/2022 13:29
1,2-Dichloroethane	<20.0	ug/L		3/29/2022 13:29
2-Butanone	<100	ug/L		3/29/2022 13:29
Benzene	<20.0	ug/L		3/29/2022 13:29
Carbon Tetrachloride	<20.0	ug/L		3/29/2022 13:29
Chlorobenzene	<20.0	ug/L		3/29/2022 13:29
Chloroform	<20.0	ug/L		3/29/2022 13:29
Tetrachloroethene	<20.0	ug/L		3/29/2022 13:29
Trichloroethene	<20.0	ug/L		3/29/2022 13:29
Vinyl chloride	<20.0	ug/L		3/29/2022 13:29

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	125	81.1 - 136		3/29/2022 13:29
4-Bromofluorobenzene	103	75.8 - 132		3/29/2022 13:29
Pentafluorobenzene	112	82 - 132		3/29/2022 13:29
Toluene-D8	121	64.6 - 137		3/29/2022 13:29

**Method Reference(s):** EPA 8260C  
EPA 5030  
**Data File:** z08063.D  
**QC Batch ID:** voax220329  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

***TCLP Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1-Dichloroethene	20.0	ug/L	20.1	100	65.5 - 116		3/29/2022
1,2-Dichloroethane	20.0	ug/L	21.7	109	78.3 - 122		3/29/2022
Benzene	20.0	ug/L	22.1	111	81.6 - 114		3/29/2022
Carbon Tetrachloride	20.0	ug/L	21.7	109	76.4 - 129		3/29/2022
Chlorobenzene	20.0	ug/L	19.7	98.7	77.2 - 106		3/29/2022
Chloroform	20.0	ug/L	21.2	106	84.5 - 122		3/29/2022
Tetrachloroethene	20.0	ug/L	21.4	107	64.4 - 130		3/29/2022
Trichloroethene	20.0	ug/L	22.4	112	73.4 - 122		3/29/2022
Vinyl chloride	20.0	ug/L	17.0	85.1	50.9 - 164		3/29/2022
<b>Method Reference(s):</b> EPA 8260C							
<b>Data File:</b> EPA 5030							
<b>QC Number:</b> z08062.D							
<b>QC Batch ID:</b> LCS 1							
<b>QC Batch ID:</b> voax220329							

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.



## 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.*

*"H" = Denotes a parameter analyzed outside of holding time.*

*"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.

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.

REQUESTED ANALYSIS

## Report Supplements

**Total Cost:**

**P.1.F.**

See additional page for sample conditions.

2082



## Chain of Custody Supplement

Client: Inventum  
 Lab Project ID: 221212

Completed by: Mollyrail  
 Date: 3/23/22

### Sample Condition Requirements

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

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>5035</u> <u>500A</u>	<input type="checkbox"/>
Comments	<u>Transferred 01 to 2-802 glass jars</u>		
Transferred to method-compliant container	<input checked="" type="checkbox"/> <u>PA 1063-01</u> <u>PA 1053-02, 03</u>	<input type="checkbox"/>	<input type="checkbox"/>
Headspace (<1 mL)	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>TEC PVOA</u>	<input type="checkbox"/>
Comments	<u>transferred 02, 03 to 1000 ml amber glass</u>		
Preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>3°C in cool</u>		
Compliant Sample Quantity/Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*Analytical Report For*  
**Inventum Engineering, P.C.**

*For Lab Project ID*

**221322**

*Referencing*

**Battery Brick**

*Prepared*

**Tuesday, April 5, 2022**

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

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*Emily Faumen*

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

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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*Report Prepared Tuesday, April 5, 2022*

Page 1 of 12

**Lab Project ID: 221322**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01

**Date Sampled:** 3/28/2022 14:00

**Matrix:** Solid

**Date Received** 3/29/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 284	ug/Kg		3/30/2022 13:50
1,2,4,5-Tetrachlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,2,4-Trichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,2-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,3-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,4-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
2,2-Oxybis (1-chloropropane)	< 284	ug/Kg		3/30/2022 13:50
2,3,4,6-Tetrachlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4,5-Trichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4,6-Trichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dimethylphenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dinitrophenol	< 1140	ug/Kg		3/30/2022 13:50
2,4-Dinitrotoluene	< 284	ug/Kg		3/30/2022 13:50
2,6-Dinitrotoluene	< 284	ug/Kg		3/30/2022 13:50
2-Chloronaphthalene	< 284	ug/Kg		3/30/2022 13:50
2-Chlorophenol	< 284	ug/Kg		3/30/2022 13:50
2-Methylnapthalene	< 284	ug/Kg		3/30/2022 13:50
2-Methylphenol	< 284	ug/Kg		3/30/2022 13:50
2-Nitroaniline	< 284	ug/Kg		3/30/2022 13:50
2-Nitrophenol	< 284	ug/Kg		3/30/2022 13:50
3&4-Methylphenol	< 284	ug/Kg		3/30/2022 13:50
3,3'-Dichlorobenzidine	< 284	ug/Kg		3/30/2022 13:50
3-Nitroaniline	< 284	ug/Kg		3/30/2022 13:50
4,6-Dinitro-2-methylphenol	< 380	ug/Kg		3/30/2022 13:50
4-Bromophenyl phenyl ether	< 284	ug/Kg		3/30/2022 13:50
4-Chloro-3-methylphenol	< 284	ug/Kg		3/30/2022 13:50
4-Chloroaniline	< 284	ug/Kg		3/30/2022 13:50

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01

Date Sampled: 3/28/2022 14:00

Matrix: Solid

Date Received 3/29/2022

4-Chlorophenyl phenyl ether	< 284	ug/Kg	3/30/2022 13:50
4-Nitroaniline	< 284	ug/Kg	3/30/2022 13:50
4-Nitrophenol	< 284	ug/Kg	3/30/2022 13:50
Acenaphthene	< 284	ug/Kg	3/30/2022 13:50
Acenaphthylene	< 284	ug/Kg	3/30/2022 13:50
Acetophenone	< 284	ug/Kg	3/30/2022 13:50
Anthracene	< 284	ug/Kg	3/30/2022 13:50
Atrazine	< 284	ug/Kg	3/30/2022 13:50
Benzaldehyde	< 284	ug/Kg	3/30/2022 13:50
Benzo (a) anthracene	< 284	ug/Kg	3/30/2022 13:50
Benzo (a) pyrene	< 284	ug/Kg	3/30/2022 13:50
Benzo (b) fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Benzo (g,h,i) perylene	< 284	ug/Kg	3/30/2022 13:50
Benzo (k) fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Bis (2-chloroethoxy) methane	< 284	ug/Kg	3/30/2022 13:50
Bis (2-chloroethyl) ether	< 284	ug/Kg	3/30/2022 13:50
Bis (2-ethylhexyl) phthalate	< 284	ug/Kg	3/30/2022 13:50
Butylbenzylphthalate	< 284	ug/Kg	3/30/2022 13:50
Caprolactam	< 284	ug/Kg	3/30/2022 13:50
Carbazole	< 284	ug/Kg	3/30/2022 13:50
Chrysene	< 284	ug/Kg	3/30/2022 13:50
Dibenz (a,h) anthracene	< 284	ug/Kg	3/30/2022 13:50
Dibenzofuran	< 284	ug/Kg	3/30/2022 13:50
Diethyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Dimethyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Di-n-butyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Di-n-octylphthalate	< 284	ug/Kg	3/30/2022 13:50
Fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Fluorene	< 284	ug/Kg	3/30/2022 13:50
Hexachlorobenzene	< 284	ug/Kg	3/30/2022 13:50

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Report Prepared Tuesday, April 5, 2022

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01

Date Sampled: 3/28/2022 14:00

Matrix: Solid

Date Received 3/29/2022

Hexachlorobutadiene	< 284	ug/Kg	3/30/2022 13:50
Hexachlorocyclopentadiene	< 1140	ug/Kg	3/30/2022 13:50
Hexachloroethane	< 284	ug/Kg	3/30/2022 13:50
Indeno (1,2,3-cd) pyrene	< 284	ug/Kg	3/30/2022 13:50
Isophorone	< 284	ug/Kg	3/30/2022 13:50
Naphthalene	< 284	ug/Kg	3/30/2022 13:50
Nitrobenzene	< 284	ug/Kg	3/30/2022 13:50
N-Nitroso-di-n-propylamine	< 284	ug/Kg	3/30/2022 13:50
N-Nitrosodiphenylamine	< 284	ug/Kg	3/30/2022 13:50
Pentachlorophenol	< 568	ug/Kg	3/30/2022 13:50
Phenanthrene	< 284	ug/Kg	3/30/2022 13:50
Phenol	< 284	ug/Kg	3/30/2022 13:50
Pyrene	< 284	ug/Kg	3/30/2022 13:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	56.9	35.4 - 92.4		3/30/2022 13:50
2-Fluorobiphenyl	52.5	39.6 - 84.4		3/30/2022 13:50
2-Fluorophenol	57.2	35.5 - 78.9		3/30/2022 13:50
Nitrobenzene-d5	45.2	36.5 - 78.2		3/30/2022 13:50
Phenol-d5	58.1	37.1 - 78.3		3/30/2022 13:50
Terphenyl-d14	56.4	42.3 - 103		3/30/2022 13:50

Method Reference(s): EPA 8270D

EPA 3546

Preparation Date: 3/30/2022

Data File: B60764.D

**Volatile Organics**

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1,2,2-Tetrachloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1,2-Trichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1-Dichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1-Dichloroethene	< 8.00	ug/Kg		4/4/2022 13:36

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Report Prepared Tuesday, April 5, 2022

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01

Date Sampled: 3/28/2022 14:00

Matrix: Solid

Date Received 3/29/2022

1,2,3-Trichlorobenzene	< 20.0	ug/Kg	4/4/2022 13:36
1,2,4-Trichlorobenzene	< 20.0	ug/Kg	4/4/2022 13:36
1,2-Dibromo-3-Chloropropane	< 40.0	ug/Kg	4/4/2022 13:36
1,2-Dibromoethane	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichloroethane	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichloropropane	< 8.00	ug/Kg	4/4/2022 13:36
1,3-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,4-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,4-Dioxane	< 40.0	ug/Kg	4/4/2022 13:36
2-Butanone	< 40.0	ug/Kg	4/4/2022 13:36
2-Hexanone	< 20.0	ug/Kg	4/4/2022 13:36
4-Methyl-2-pentanone	< 20.0	ug/Kg	4/4/2022 13:36
Acetone	< 40.0	ug/Kg	4/4/2022 13:36
Benzene	< 8.00	ug/Kg	4/4/2022 13:36
Bromochloromethane	< 20.0	ug/Kg	4/4/2022 13:36
Bromodichloromethane	< 8.00	ug/Kg	4/4/2022 13:36
Bromoform	< 20.0	ug/Kg	4/4/2022 13:36
Bromomethane	< 8.00	ug/Kg	4/4/2022 13:36
Carbon disulfide	< 8.00	ug/Kg	4/4/2022 13:36
Carbon Tetrachloride	< 8.00	ug/Kg	4/4/2022 13:36
Chlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
Chloroethane	< 8.00	ug/Kg	4/4/2022 13:36
Chloroform	< 8.00	ug/Kg	4/4/2022 13:36
Chloromethane	< 8.00	ug/Kg	4/4/2022 13:36
cis-1,2-Dichloroethene	< 8.00	ug/Kg	4/4/2022 13:36
cis-1,3-Dichloropropene	< 8.00	ug/Kg	4/4/2022 13:36
Cyclohexane	< 40.0	ug/Kg	4/4/2022 13:36
Dibromochloromethane	< 8.00	ug/Kg	4/4/2022 13:36
Dichlorodifluoromethane	< 8.00	ug/Kg	4/4/2022 13:36

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 Tuesday, April 5, 2022

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**Lab Project ID: 221322**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01

**Date Sampled:** 3/28/2022 14:00

**Matrix:** Solid

**Date Received** 3/29/2022

Ethylbenzene	< 8.00	ug/Kg	4/4/2022	13:36
Freon 113	< 8.00	ug/Kg	4/4/2022	13:36
Isopropylbenzene	< 8.00	ug/Kg	4/4/2022	13:36
m,p-Xylene	< 8.00	ug/Kg	4/4/2022	13:36
Methyl acetate	< 8.00	ug/Kg	4/4/2022	13:36
Methyl tert-butyl Ether	< 8.00	ug/Kg	4/4/2022	13:36
Methylcyclohexane	< 8.00	ug/Kg	4/4/2022	13:36
Methylene chloride	< 20.0	ug/Kg	4/4/2022	13:36
o-Xylene	< 8.00	ug/Kg	4/4/2022	13:36
Styrene	< 20.0	ug/Kg	4/4/2022	13:36
Tetrachloroethene	< 8.00	ug/Kg	4/4/2022	13:36
Toluene	< 8.00	ug/Kg	4/4/2022	13:36
trans-1,2-Dichloroethene	< 8.00	ug/Kg	4/4/2022	13:36
trans-1,3-Dichloropropene	< 8.00	ug/Kg	4/4/2022	13:36
Trichloroethene	< 8.00	ug/Kg	4/4/2022	13:36
Trichlorofluoromethane	< 8.00	ug/Kg	4/4/2022	13:36
Vinyl chloride	< 8.00	ug/Kg	4/4/2022	13:36
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>125</b>	74.7 - 140		4/4/2022 13:36
4-Bromofluorobenzene	<b>96.5</b>	68 - 130		4/4/2022 13:36
Pentafluorobenzene	<b>122</b>	70.3 - 140		4/4/2022 13:36
Toluene-D8	<b>124</b>	69 - 138		4/4/2022 13:36

**Method Reference(s):** EPA 8260C  
 EPA 5035A - L

**Data File:** z08191.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

**Lab Project ID: 221322**
**Client:** Inventum Engineering, P.C.
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01A

**Date Sampled:** 3/28/2022 14:00

**Matrix:** TCLP Extract

**Date Received** 3/29/2022

### **TCLP Semi-Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,4-Dichlorobenzene	< 40.0	ug/L	7500		4/1/2022 18:49
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		4/1/2022 18:49
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		4/1/2022 18:49
2,4-Dinitrotoluene	< 40.0	ug/L	130		4/1/2022 18:49
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		4/1/2022 18:49
Hexachlorobenzene	< 40.0	ug/L	130		4/1/2022 18:49
Hexachlorobutadiene	< 40.0	ug/L	500		4/1/2022 18:49
Hexachloroethane	< 40.0	ug/L	3000		4/1/2022 18:49
Nitrobenzene	< 40.0	ug/L	2000		4/1/2022 18:49
Pentachlorophenol	< 80.0	ug/L	100000		4/1/2022 18:49
Pyridine	< 40.0	ug/L	5000		4/1/2022 18:49

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>88.9</b>	29.6 - 139		4/1/2022 18:49
2-Fluorobiphenyl	<b>65.8</b>	5 - 124		4/1/2022 18:49
2-Fluorophenol	<b>73.3</b>	10 - 122		4/1/2022 18:49
Nitrobenzene-d5	<b>71.8</b>	28.7 - 119		4/1/2022 18:49
Phenol-d5	<b>66.9</b>	10 - 115		4/1/2022 18:49
Terphenyl-d14	<b>77.8</b>	32.2 - 142		4/1/2022 18:49

**Method Reference(s):** EPA 8270D  
 EPA 1311 / 3510C  
**Preparation Date:** 4/1/2022  
**Data File:** B60808.D

### **TCLP Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Dichloroethene	< 20.0	ug/L	700		4/1/2022 15:32
1,2-Dichloroethane	< 20.0	ug/L	500		4/1/2022 15:32
2-Butanone	< 100	ug/L	200000		4/1/2022 15:32
Benzene	< 20.0	ug/L	500		4/1/2022 15:32

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01A

Date Sampled: 3/28/2022 14:00

Matrix: TCLP Extract

Date Received 3/29/2022

Carbon Tetrachloride	< 20.0	ug/L	500	4/1/2022 15:32
Chlorobenzene	< 20.0	ug/L	100000	4/1/2022 15:32
Chloroform	< 20.0	ug/L	6000	4/1/2022 15:32
Tetrachloroethene	< 20.0	ug/L	700	4/1/2022 15:32
Trichloroethene	< 20.0	ug/L	500	4/1/2022 15:32
Vinyl chloride	< 20.0	ug/L	200	4/1/2022 15:32
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>131</b>	81.1 - 136		4/1/2022 15:32
4-Bromofluorobenzene	<b>104</b>	75.8 - 132		4/1/2022 15:32
Pentafluorobenzene	<b>129</b>	82 - 132		4/1/2022 15:32
Toluene-D8	<b>132</b>	64.6 - 137		4/1/2022 15:32

Method Reference(s): EPA 8260C  
EPA 1311 / 5030C  
Data File: z08162.D



## 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.*

*"H" = Denotes a parameter analyzed outside of holding time.*

*"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.

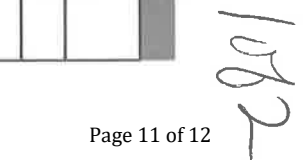
LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders 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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## Chain of Custody Supplement

Client: Inventum  
 Lab Project ID: 221322

Completed by: Molly Vail  
 Date: 3/29/22

### Sample Condition Requirements

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

Condition		NELAC compliance with the sample condition requirements upon receipt		
		Yes	No	N/A
Container Type		<input type="checkbox"/>	<input checked="" type="checkbox"/> 5035	<input type="checkbox"/>
Comments	<u>Sample rec'd in plastic bag transferred to 1000ml-willemouth glass jar</u>			
Transferred to method-compliant container		<input checked="" type="checkbox"/> PB to mg	<input type="checkbox"/>	<input type="checkbox"/>
Headspace (<1 mL)		<input type="checkbox"/>	<input checked="" type="checkbox"/> TCEP VOA	<input checked="" type="checkbox"/>
Comments				
Preservation		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments				
Chlorine Absent (<0.10 ppm per test strip)		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments				
Holding Time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments				
Temperature		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>5°C in cool</u>			
Compliant Sample Quantity/Type		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments				

## Attachment C – Import Request Form





**NEW YORK STATE  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**



**Request to Import/Reuse Fill or Soil**

\*This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.\*

**SECTION 1 – SITE BACKGROUND**

The allowable site use is:

Have Ecological Resources been identified?

Is this soil originating from the site?

How many cubic yards of soil will be imported/reused?

If greater than 1000 cubic yards will be imported, enter volume to be imported:

**SECTION 2 – MATERIAL OTHER THAN SOIL**

Is the material to be imported gravel, rock or stone?

Does it contain less than 10%, by weight, material that would pass a size 80 sieve?

Is this virgin material from a permitted mine or quarry?

Is this material recycled concrete or brick from a DEC registered processing facility?

**SECTION 3 - SAMPLING**

Provide a brief description of the number and type of samples collected in the space below:

17 discrete samples of brick were collected and analyzed for asbestos.  
4 discrete samples (1 from 4 types of brick identified) were collected, crushed, and analyzed for TCL and TCLP VOCs and SVOCs.

*Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.*

*If the material meets requirements of DER-10 section 5.5 (other material), no chemical testing needed.*

### SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Evaluation tables are attached.

Note that the 17 ACM samples tested negative for asbestos.

Note that the 4 samples were all nearly non-detect. The sample of red brick contained Chrysene at 301 ug/Kg, Fluoranthene at 499 ug/Kg, and Phenanthrene at 431 ug/Kg, all below their respective Residential SCOs.

*Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.*

*If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.*

### SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Riverview Innovation and Technology Campus (RITC), Site Owner

Location where fill was obtained:

Site structure - brick from the former Battery

Identification of any state or local approvals as a fill source:

NA

If no approvals are available, provide a brief history of the use of the property that is the fill source:

The property was historically a Coke Plant. The Battery was a structure constructed of steel coking ovens and brick. It underwent controlled demolition for asbestos containing materials. The brick was not visually impacted by the former plant processes and tested negative for asbestos.  
Note that this Import Request supports the Backfill Exhaust Tunnel Battery No.2 IRM Workplan submitted June 18th, 2022.

Provide a list of supporting documentation included with this request:

1. Battery Brick Evaluation Table
2. Laboratory Reports
3. A volume estimate for the quantity of brick proposed to backfill the open Battery exhaust tunnel.

The information provided on this form is accurate and complete.



Signature

6/29/2022

Date

John P. Black, P.E.

Print Name

Inventum Engineering

Firm

1. Table 1: Battery Brick Evaluation



Table 1  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022		BRICK-RED-03222022		BRICK-YELW-03222022		BRICK-GRAY-03222022	
Contents			Refractory Brick		Red Brick		Yellow Brick		Grey Brick	
Location			Battery		Battery		Battery		Battery	
SW8260C										
1,1,1-Trichloroethane (TCA)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2,2-Tetrachloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2-Trichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1-Dichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,1-Dichloroethene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2,3-Trichlorobenzene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
1,2,4-Trichlorobenzene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
1,2-Dibromo-3-Chloropropane		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
1,2-Dibromoethane (Ethylene Dibromide)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,2-Dichloropropane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,3-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,4-Dichlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
1,4-Dioxane (P-Dioxane)		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Methyl Ethyl Ketone (2-Butanone)		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
2-Hexanone		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Acetone		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Benzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Bromochloromethane		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Bromodichloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Bromoform		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Bromomethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Carbon Disulfide		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Carbon Tetrachloride		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chlorobenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloroethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloroform		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Chloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cyclohexane		ug/kg	<41.7	U	<48.1	U	<28.6	U	<40.0	U
Dibromochloromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Dichlorodifluoromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methylene Chloride		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Ethylbenzene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Isopropylbenzene (Cumene)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methyl Acetate		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Tert-Butyl Methyl Ether		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Methylcyclohexane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Styrene		ug/kg	<20.8	U	<24.0	U	<14.3	U	<20.0	U
Tetrachloroethylene (PCE)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Toluene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trichloroethylene (TCE)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trichlorofluoromethane		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Vinyl Chloride		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cis-1,2-Dichloroethylene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Cis-1,3-Dichloropropene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
m,p-Xylene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
O-Xylene (1,2-Dimethylbenzene)		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trans-1,2-Dichloroethene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U
Trans-1,3-Dichloropropene		ug/kg	<8.33	U	<9.62	U	<5.71	U	<8.00	U



Table 1  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022	BRICK-RED-03222022	BRICK-YELW-03222022	BRICK-GRAY-03222022
Contents			Refractory Brick	Red Brick	Yellow Brick	Grey Brick
Location			Battery	Battery	Battery	Battery
SW8270D						
1,2,4,5-Tetrachlorobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
2,3,4,6-Tetrachlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4,5-Trichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4,6-Trichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dichlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dimethylphenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2,4-Dinitrophenol		ug/kg	<1140 U	<1110 U	<1080 U	<1140 U
2,4-Dinitrotoluene		ug/kg	<284 U	<278 U	<269 U	<284 U
2,6-Dinitrotoluene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Chloronaphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Chlorophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Methylnaphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Methylphenol (O-Cresol)		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
2-Nitrophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
3,3'-Dichlorobenzidine		ug/kg	<284 U	<278 U	<269 U	<284 U
Cresols, M & P		ug/kg	<284 U	<278 U	<269 U	<284 U
3-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4,6-Dinitro-2-Methylphenol		ug/kg	<380 U	<372 U	<360 U	<380 U
4-Bromophenyl Phenyl Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chloro-3-Methylphenol		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chloroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Chlorophenyl Phenyl Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Nitroaniline		ug/kg	<284 U	<278 U	<269 U	<284 U
4-Nitrophenol		ug/kg	<284 U	<278 U	<269 U	<284 U
Acenaphthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Acenaphthylene		ug/kg	<284 U	<278 U	<269 U	<284 U
Acetophenone		ug/kg	<284 U	<278 U	<269 U	<284 U
Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Atrazine		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(A)Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzaldehyde		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(A)Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(B)Fluoranthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(G,H,I)Perylene		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzo(K)Fluoranthene		ug/kg	<284 U	<278 U	<269 U	<284 U
Biphenyl (Diphenyl)		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroisopropyl) Ether		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroethoxy) Methane		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)		ug/kg	<284 U	<278 U	<269 U	<284 U
Bis(2-Ethylhexyl) Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Benzyl Butyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Caprolactam		ug/kg	<284 U	<278 U	<269 U	<284 U
Carbazole		ug/kg	<284 U	<278 U	<269 U	<284 U
Chrysene		ug/kg	<284 U	301	<269 U	<284 U
Di-N-Butyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Di-N-Octylphthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Dibenz(A,H)Anthracene		ug/kg	<284 U	<278 U	<269 U	<284 U
Dibenzofuran		ug/kg	<284 U	<278 U	<269 U	<284 U
Diethyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Dimethyl Phthalate		ug/kg	<284 U	<278 U	<269 U	<284 U
Fluoranthene		ug/kg	<284 U	499	<269 U	<284 U
Fluorene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorobutadiene		ug/kg	<284 U	<278 U	<269 U	<284 U
Hexachlorocyclopentadiene		ug/kg	<1140 U	<1110 U	<1080 U	<1140 U
Hexachloroethane		ug/kg	<284 U	<278 U	<269 U	<284 U
Indeno(1,2,3-C,D)Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U
Isophorone		ug/kg	<284 U	<278 U	<269 U	<284 U
N-Nitrosodi-N-Propylamine		ug/kg	<284 U	<278 U	<269 U	<284 U
N-Nitrosodiphenylamine		ug/kg	<284 U	<278 U	<269 U	<284 U
Naphthalene		ug/kg	<284 U	<278 U	<269 U	<284 U
Nitrobenzene		ug/kg	<284 U	<278 U	<269 U	<284 U
Pentachlorophenol		ug/kg	<568 U	<556 U	<538 U	<568 U
Phenanthrene		ug/kg	<284 U	431	<269 U	<284 U
Phenol		ug/kg	<284 U	<278 U	<269 U	<284 U
Pyrene		ug/kg	<284 U	<278 U	<269 U	<284 U



Table 1  
Analytical Data  
Battery Brick and Refractory  
Riverview Innovation Technology Campus  
NYSDEC Site No. C915353  
Town of Tonawanda, New York

Analytes	Standards	Units	BRICK-MULTI-03222022	BRICK-RED-03222022	BRICK-YELW-03222022	BRICK-GRAY-03222022
<b>Contents</b>			Refractory Brick	Red Brick	Yellow Brick	Grey Brick
<b>Location</b>			Battery	Battery	Battery	Battery
<b>TCLP - SW8260C</b>						
1,2-Dichloroethane	500	ug/L	<20.0	U	<20.0	U
Chlorobenzene	100000	ug/L	<20.0	U	<20.0	U
Tetrachloroethylene (PCE)	700	ug/L	<20.0	U	<20.0	U
Carbon Tetrachloride	500	ug/L	<20.0	U	<20.0	U
Chloroform	6000	ug/L	<20.0	U	<20.0	U
Benzene	500	ug/L	<20.0	U	<20.0	U
Vinyl Chloride	200	ug/L	<20.0	U	<20.0	U
1,1-Dichloroethene	700	ug/L	<20.0	U	<20.0	U
Methyl Ethyl Ketone (2-Butanone)	200000	ug/L	<100	U	<100	U
Trichloroethylene (TCE)	500	ug/L	<20.0	U	<20.0	U
<b>TCLP - SW8270D</b>						
1,4-Dichlorobenzene	7500	ug/L	<40.0	U	<40.0	U
2,4,5-Trichlorophenol	400000	ug/L	<40.0	U	<40.0	U
2,4,6-Trichlorophenol	2000	ug/L	<40.0	U	<40.0	U
2,4-Dinitrotoluene	130	ug/L	<40.0	U	<40.0	U
Cresols (as m,p,o-Cresol)	200000	ug/L	<80.0	U	<80.0	U
Hexachlorobenzene	130	ug/L	<40.0	U	<40.0	U
Hexachlorobutadiene	500	ug/L	<40.0	U	<40.0	U
Hexachloroethane	3000	ug/L	<40.0	U	<40.0	U
Nitrobenzene	2000	ug/L	<40.0	U	<40.0	U
Pentachlorophenol	100000	ug/L	<80.0	U	<80.0	U
Pyridine	5000	ug/L	<40.0	U	<40.0	U
<b>Legend:</b>						
<b>Bold</b>	Detected					
U	Not detected above method detection limit					
ND	Non detected					
NS	Not sampled					
SU	Standard units					
PPM	Parts per million					
mg/l	Miligrams per liter					
ug/l	Micrograms per liter					
D	Sample or matrix spike duplicate results above relative percent difference limit					
L	Laboratory control sample recovery outside accepted QC limits					
M	Matrix spike recoveries outside QC limits. Matrix bias indicated					

## 2. Laboratory Reports



*Analytical Report For*  
**Inventum Engineering, P.C.**

*For Lab Project ID*

**221212**

*Referencing*

**Battery Brick**

*Prepared*

**Wednesday, March 30, 2022**

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

A handwritten signature in blue ink, appearing to read "KR Hansen", is written over a horizontal line.

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

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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*Report Prepared Wednesday, March 30, 2022*

Page 1 of 40

**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 284	ug/Kg		3/25/2022 22:57
1,2,4,5-Tetrachlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,2,4-Trichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,2-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,3-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
1,4-Dichlorobenzene	< 284	ug/Kg		3/25/2022 22:57
2,2-Oxybis (1-chloropropane)	< 284	ug/Kg		3/25/2022 22:57
2,3,4,6-Tetrachlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4,5-Trichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4,6-Trichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dichlorophenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dimethylphenol	< 284	ug/Kg		3/25/2022 22:57
2,4-Dinitrophenol	< 1140	ug/Kg		3/25/2022 22:57
2,4-Dinitrotoluene	< 284	ug/Kg		3/25/2022 22:57
2,6-Dinitrotoluene	< 284	ug/Kg		3/25/2022 22:57
2-Chloronaphthalene	< 284	ug/Kg		3/25/2022 22:57
2-Chlorophenol	< 284	ug/Kg		3/25/2022 22:57
2-Methylnapthalene	< 284	ug/Kg		3/25/2022 22:57
2-Methylphenol	< 284	ug/Kg		3/25/2022 22:57
2-Nitroaniline	< 284	ug/Kg		3/25/2022 22:57
2-Nitrophenol	< 284	ug/Kg		3/25/2022 22:57
3&4-Methylphenol	< 284	ug/Kg		3/25/2022 22:57
3,3'-Dichlorobenzidine	< 284	ug/Kg		3/25/2022 22:57
3-Nitroaniline	< 284	ug/Kg		3/25/2022 22:57
4,6-Dinitro-2-methylphenol	< 380	ug/Kg		3/25/2022 22:57
4-Bromophenyl phenyl ether	< 284	ug/Kg		3/25/2022 22:57
4-Chloro-3-methylphenol	< 284	ug/Kg		3/25/2022 22:57
4-Chloroaniline	< 284	ug/Kg		3/25/2022 22:57

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Lab Project ID: 221212

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

4-Chlorophenyl phenyl ether	< 284	ug/Kg	3/25/2022 22:57
4-Nitroaniline	< 284	ug/Kg	3/25/2022 22:57
4-Nitrophenol	< 284	ug/Kg	3/25/2022 22:57
Acenaphthene	< 284	ug/Kg	3/25/2022 22:57
Acenaphthylene	< 284	ug/Kg	3/25/2022 22:57
Acetophenone	< 284	ug/Kg	3/25/2022 22:57
Anthracene	< 284	ug/Kg	3/25/2022 22:57
Atrazine	< 284	ug/Kg	3/25/2022 22:57
Benzaldehyde	< 284	ug/Kg	3/25/2022 22:57
Benzo (a) anthracene	< 284	ug/Kg	3/25/2022 22:57
Benzo (a) pyrene	< 284	ug/Kg	3/25/2022 22:57
Benzo (b) fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Benzo (g,h,i) perylene	< 284	ug/Kg	3/25/2022 22:57
Benzo (k) fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Bis (2-chloroethoxy) methane	< 284	ug/Kg	3/25/2022 22:57
Bis (2-chloroethyl) ether	< 284	ug/Kg	3/25/2022 22:57
Bis (2-ethylhexyl) phthalate	< 284	ug/Kg	3/25/2022 22:57
Butylbenzylphthalate	< 284	ug/Kg	3/25/2022 22:57
Caprolactam	< 284	ug/Kg	3/25/2022 22:57
Carbazole	< 284	ug/Kg	3/25/2022 22:57
Chrysene	< 284	ug/Kg	3/25/2022 22:57
Dibenz (a,h) anthracene	< 284	ug/Kg	3/25/2022 22:57
Dibenzofuran	< 284	ug/Kg	3/25/2022 22:57
Diethyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Dimethyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Di-n-butyl phthalate	< 284	ug/Kg	3/25/2022 22:57
Di-n-octylphthalate	< 284	ug/Kg	3/25/2022 22:57
Fluoranthene	< 284	ug/Kg	3/25/2022 22:57
Fluorene	< 284	ug/Kg	3/25/2022 22:57
Hexachlorobenzene	< 284	ug/Kg	3/25/2022 22:57

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Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

Hexachlorobutadiene	< 284	ug/Kg	3/25/2022 22:57
Hexachlorocyclopentadiene	< 1140	ug/Kg	3/25/2022 22:57
Hexachloroethane	< 284	ug/Kg	3/25/2022 22:57
Indeno (1,2,3-cd) pyrene	< 284	ug/Kg	3/25/2022 22:57
Isophorone	< 284	ug/Kg	3/25/2022 22:57
Naphthalene	< 284	ug/Kg	3/25/2022 22:57
Nitrobenzene	< 284	ug/Kg	3/25/2022 22:57
N-Nitroso-di-n-propylamine	< 284	ug/Kg	3/25/2022 22:57
N-Nitrosodiphenylamine	< 284	ug/Kg	3/25/2022 22:57
Pentachlorophenol	< 568	ug/Kg	3/25/2022 22:57
Phenanthrene	< 284	ug/Kg	3/25/2022 22:57
Phenol	< 284	ug/Kg	3/25/2022 22:57
Pyrene	< 284	ug/Kg	3/25/2022 22:57

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>62.8</b>	35.4 - 92.4		3/25/2022 22:57
2-Fluorobiphenyl	<b>62.2</b>	39.6 - 84.4		3/25/2022 22:57
2-Fluorophenol	<b>50.3</b>	35.5 - 78.9		3/25/2022 22:57
Nitrobenzene-d5	<b>50.7</b>	36.5 - 78.2		3/25/2022 22:57
Phenol-d5	<b>55.1</b>	37.1 - 78.3		3/25/2022 22:57
Terphenyl-d14	<b>71.0</b>	42.3 - 103		3/25/2022 22:57

Internal standard outliers indicate probable matrix interference

Method Reference(s): EPA 8270D

EPA 3546

Preparation Date: 3/24/2022

Data File: B60684.D

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1,2,2-Tetrachloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1,2-Trichloroethane	< 8.33	ug/Kg		3/29/2022 16:57
1,1-Dichloroethane	< 8.33	ug/Kg		3/29/2022 16:57

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**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,1-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
1,2,3-Trichlorobenzene	< 20.8	ug/Kg	3/29/2022 16:57
1,2,4-Trichlorobenzene	< 20.8	ug/Kg	3/29/2022 16:57
1,2-Dibromo-3-Chloropropane	< 41.7	ug/Kg	3/29/2022 16:57
1,2-Dibromoethane	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichloroethane	< 8.33	ug/Kg	3/29/2022 16:57
1,2-Dichloropropane	< 8.33	ug/Kg	3/29/2022 16:57
1,3-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,4-Dichlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
1,4-Dioxane	< 41.7	ug/Kg	3/29/2022 16:57
2-Butanone	< 41.7	ug/Kg	3/29/2022 16:57
2-Hexanone	< 20.8	ug/Kg	3/29/2022 16:57
4-Methyl-2-pentanone	< 20.8	ug/Kg	3/29/2022 16:57
Acetone	< 41.7	ug/Kg	3/29/2022 16:57
Benzene	< 8.33	ug/Kg	3/29/2022 16:57
Bromochloromethane	< 20.8	ug/Kg	3/29/2022 16:57
Bromodichloromethane	< 8.33	ug/Kg	3/29/2022 16:57
Bromoform	< 20.8	ug/Kg	3/29/2022 16:57
Bromomethane	< 8.33	ug/Kg	3/29/2022 16:57
Carbon disulfide	< 8.33	ug/Kg	3/29/2022 16:57
Carbon Tetrachloride	< 8.33	ug/Kg	3/29/2022 16:57
Chlorobenzene	< 8.33	ug/Kg	3/29/2022 16:57
Chloroethane	< 8.33	ug/Kg	3/29/2022 16:57
Chloroform	< 8.33	ug/Kg	3/29/2022 16:57
Chloromethane	< 8.33	ug/Kg	3/29/2022 16:57
cis-1,2-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
cis-1,3-Dichloropropene	< 8.33	ug/Kg	3/29/2022 16:57
Cyclohexane	< 41.7	ug/Kg	3/29/2022 16:57
Dibromochloromethane	< 8.33	ug/Kg	3/29/2022 16:57

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Lab Project ID: 221212

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

Dichlorodifluoromethane	< 8.33	ug/Kg	3/29/2022 16:57
Ethylbenzene	< 8.33	ug/Kg	3/29/2022 16:57
Freon 113	< 8.33	ug/Kg	3/29/2022 16:57
Isopropylbenzene	< 8.33	ug/Kg	3/29/2022 16:57
m,p-Xylene	< 8.33	ug/Kg	3/29/2022 16:57
Methyl acetate	< 8.33	ug/Kg	3/29/2022 16:57
Methyl tert-butyl Ether	< 8.33	ug/Kg	3/29/2022 16:57
Methylcyclohexane	< 8.33	ug/Kg	3/29/2022 16:57
Methylene chloride	< 20.8	ug/Kg	3/29/2022 16:57
o-Xylene	< 8.33	ug/Kg	3/29/2022 16:57
Styrene	< 20.8	ug/Kg	3/29/2022 16:57
Tetrachloroethene	< 8.33	ug/Kg	3/29/2022 16:57
Toluene	< 8.33	ug/Kg	3/29/2022 16:57
trans-1,2-Dichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
trans-1,3-Dichloropropene	< 8.33	ug/Kg	3/29/2022 16:57
Trichloroethene	< 8.33	ug/Kg	3/29/2022 16:57
Trichlorofluoromethane	< 8.33	ug/Kg	3/29/2022 16:57
Vinyl chloride	< 8.33	ug/Kg	3/29/2022 16:57

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	120	74.7 - 140		3/29/2022 16:57
4-Bromofluorobenzene	93.9	68 - 130		3/29/2022 16:57
Pentafluorobenzene	115	70.3 - 140		3/29/2022 16:57
Toluene-D8	119	69 - 138		3/29/2022 16:57

Method Reference(s): EPA 8260C  
EPA 5035A - L  
Data File: z08073.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

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, March 30, 2022

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Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Multi-03222022

Lab Sample ID: 221212-01A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

**TCLP Semi-Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 17:46
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 17:46
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 17:46
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 17:46
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 17:46
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 17:46
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 17:46
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 17:46
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 17:46
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 17:46
Pyridine	< 40.0	ug/L	5000		3/28/2022 17:46

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	<b>90.3</b>	29.6 - 139		3/28/2022 17:46
2-Fluorobiphenyl	<b>69.5</b>	5 - 124		3/28/2022 17:46
2-Fluorophenol	<b>71.9</b>	10 - 122		3/28/2022 17:46
Nitrobenzene-d5	<b>65.8</b>	28.7 - 119		3/28/2022 17:46
Phenol-d5	<b>64.5</b>	10 - 115		3/28/2022 17:46
Terphenyl-d14	<b>80.4</b>	32.2 - 142		3/28/2022 17:46

Method Reference(s): EPA 8270D  
 EPA 1311 / 3510C  
 Preparation Date: 3/28/2022  
 Data File: B60704.D

**TCLP Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 15:59
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 15:59
2-Butanone	< 100	ug/L	200000		3/29/2022 15:59
Benzene	< 20.0	ug/L	500		3/29/2022 15:59

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Multi-03222022

**Lab Sample ID:** 221212-01A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 15:59
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 15:59
Chloroform	< 20.0	ug/L	6000	3/29/2022 15:59
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 15:59
Trichloroethene	< 20.0	ug/L	500	3/29/2022 15:59
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 15:59
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>118</b>	81.1 - 136		3/29/2022 15:59
4-Bromofluorobenzene	<b>98.0</b>	75.8 - 132		3/29/2022 15:59
Pentafluorobenzene	<b>114</b>	82 - 132		3/29/2022 15:59
Toluene-D8	<b>116</b>	64.6 - 137		3/29/2022 15:59

**Method Reference(s):** EPA 8260C  
 EPA 1311 / 5030C  
**Data File:** z08070.D



Lab Project ID: 221212

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Red-03222022

Lab Sample ID: 221212-02

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 278	ug/Kg		3/25/2022 03:43
1,2,4,5-Tetrachlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,2,4-Trichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,2-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,3-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
1,4-Dichlorobenzene	< 278	ug/Kg		3/25/2022 03:43
2,2-Oxybis (1-chloropropane)	< 278	ug/Kg		3/25/2022 03:43
2,3,4,6-Tetrachlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4,5-Trichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4,6-Trichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dichlorophenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dimethylphenol	< 278	ug/Kg		3/25/2022 03:43
2,4-Dinitrophenol	< 1110	ug/Kg		3/25/2022 03:43
2,4-Dinitrotoluene	< 278	ug/Kg		3/25/2022 03:43
2,6-Dinitrotoluene	< 278	ug/Kg		3/25/2022 03:43
2-Chloronaphthalene	< 278	ug/Kg		3/25/2022 03:43
2-Chlorophenol	< 278	ug/Kg		3/25/2022 03:43
2-Methylnapthalene	< 278	ug/Kg		3/25/2022 03:43
2-Methylphenol	< 278	ug/Kg		3/25/2022 03:43
2-Nitroaniline	< 278	ug/Kg		3/25/2022 03:43
2-Nitrophenol	< 278	ug/Kg		3/25/2022 03:43
3&4-Methylphenol	< 278	ug/Kg		3/25/2022 03:43
3,3'-Dichlorobenzidine	< 278	ug/Kg		3/25/2022 03:43
3-Nitroaniline	< 278	ug/Kg		3/25/2022 03:43
4,6-Dinitro-2-methylphenol	< 372	ug/Kg		3/25/2022 03:43
4-Bromophenyl phenyl ether	< 278	ug/Kg		3/25/2022 03:43
4-Chloro-3-methylphenol	< 278	ug/Kg		3/25/2022 03:43
4-Chloroaniline	< 278	ug/Kg		3/25/2022 03:43

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**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

4-Chlorophenyl phenyl ether	< 278	ug/Kg	3/25/2022 03:43
4-Nitroaniline	< 278	ug/Kg	3/25/2022 03:43
4-Nitrophenol	< 278	ug/Kg	3/25/2022 03:43
Acenaphthene	< 278	ug/Kg	3/25/2022 03:43
Acenaphthylene	< 278	ug/Kg	3/25/2022 03:43
Acetophenone	< 278	ug/Kg	3/25/2022 03:43
Anthracene	< 278	ug/Kg	3/25/2022 03:43
Atrazine	< 278	ug/Kg	3/25/2022 03:43
Benzaldehyde	< 278	ug/Kg	3/25/2022 03:43
Benzo (a) anthracene	< 278	ug/Kg	3/25/2022 03:43
Benzo (a) pyrene	< 278	ug/Kg	3/25/2022 03:43
Benzo (b) fluoranthene	< 278	ug/Kg	3/25/2022 03:43
Benzo (g,h,i) perylene	< 278	ug/Kg	3/25/2022 03:43
Benzo (k) fluoranthene	< 278	ug/Kg	3/25/2022 03:43
Bis (2-chloroethoxy) methane	< 278	ug/Kg	3/25/2022 03:43
Bis (2-chloroethyl) ether	< 278	ug/Kg	3/25/2022 03:43
Bis (2-ethylhexyl) phthalate	< 278	ug/Kg	3/25/2022 03:43
Butylbenzylphthalate	< 278	ug/Kg	3/25/2022 03:43
Caprolactam	< 278	ug/Kg	3/25/2022 03:43
Carbazole	< 278	ug/Kg	3/25/2022 03:43
Chrysene	<b>301</b>	ug/Kg	3/25/2022 03:43
Dibenz (a,h) anthracene	< 278	ug/Kg	3/25/2022 03:43
Dibenzofuran	< 278	ug/Kg	3/25/2022 03:43
Diethyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Dimethyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Di-n-butyl phthalate	< 278	ug/Kg	3/25/2022 03:43
Di-n-octylphthalate	< 278	ug/Kg	3/25/2022 03:43
Fluoranthene	<b>499</b>	ug/Kg	3/25/2022 03:43
Fluorene	< 278	ug/Kg	3/25/2022 03:43
Hexachlorobenzene	< 278	ug/Kg	3/25/2022 03:43

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Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Red-03222022

Lab Sample ID: 221212-02

Date Sampled: 3/22/2022 15:00

Matrix: Solid

Date Received 3/23/2022

Hexachlorobutadiene	< 278	ug/Kg	3/25/2022 03:43
Hexachlorocyclopentadiene	< 1110	ug/Kg	3/25/2022 03:43
Hexachloroethane	< 278	ug/Kg	3/25/2022 03:43
Indeno (1,2,3-cd) pyrene	< 278	ug/Kg	3/25/2022 03:43
Isophorone	< 278	ug/Kg	3/25/2022 03:43
Naphthalene	< 278	ug/Kg	3/25/2022 03:43
Nitrobenzene	< 278	ug/Kg	3/25/2022 03:43
N-Nitroso-di-n-propylamine	< 278	ug/Kg	3/25/2022 03:43
N-Nitrosodiphenylamine	< 278	ug/Kg	3/25/2022 03:43
Pentachlorophenol	< 556	ug/Kg	3/25/2022 03:43
Phenanthrene	<b>431</b>	ug/Kg	3/25/2022 03:43
Phenol	< 278	ug/Kg	3/25/2022 03:43
Pyrene	< 278	ug/Kg	3/25/2022 03:43

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>62.6</b>	35.4 - 92.4		3/25/2022 03:43
2-Fluorobiphenyl	<b>46.8</b>	39.6 - 84.4		3/25/2022 03:43
2-Fluorophenol	<b>54.9</b>	35.5 - 78.9		3/25/2022 03:43
Nitrobenzene-d5	<b>40.3</b>	36.5 - 78.2		3/25/2022 03:43
Phenol-d5	<b>62.9</b>	37.1 - 78.3		3/25/2022 03:43
Terphenyl-d14	<b>62.8</b>	42.3 - 103		3/25/2022 03:43

Method Reference(s): EPA 8270D

EPA 3546

Preparation Date: 3/24/2022

Data File: B60650.D

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1,2,2-Tetrachloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1,2-Trichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1-Dichloroethane	< 9.62	ug/Kg		3/29/2022 17:16
1,1-Dichloroethene	< 9.62	ug/Kg		3/29/2022 17:16

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,2,3-Trichlorobenzene	< 24.0	ug/Kg	3/29/2022 17:16
1,2,4-Trichlorobenzene	< 24.0	ug/Kg	3/29/2022 17:16
1,2-Dibromo-3-Chloropropane	< 48.1	ug/Kg	3/29/2022 17:16
1,2-Dibromoethane	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichloroethane	< 9.62	ug/Kg	3/29/2022 17:16
1,2-Dichloropropane	< 9.62	ug/Kg	3/29/2022 17:16
1,3-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,4-Dichlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
1,4-Dioxane	< 48.1	ug/Kg	3/29/2022 17:16
2-Butanone	< 48.1	ug/Kg	3/29/2022 17:16
2-Hexanone	< 24.0	ug/Kg	3/29/2022 17:16
4-Methyl-2-pentanone	< 24.0	ug/Kg	3/29/2022 17:16
Acetone	< 48.1	ug/Kg	3/29/2022 17:16
Benzene	< 9.62	ug/Kg	3/29/2022 17:16
Bromochloromethane	< 24.0	ug/Kg	3/29/2022 17:16
Bromodichloromethane	< 9.62	ug/Kg	3/29/2022 17:16
Bromoform	< 24.0	ug/Kg	3/29/2022 17:16
Bromomethane	< 9.62	ug/Kg	3/29/2022 17:16
Carbon disulfide	< 9.62	ug/Kg	3/29/2022 17:16
Carbon Tetrachloride	< 9.62	ug/Kg	3/29/2022 17:16
Chlorobenzene	< 9.62	ug/Kg	3/29/2022 17:16
Chloroethane	< 9.62	ug/Kg	3/29/2022 17:16
Chloroform	< 9.62	ug/Kg	3/29/2022 17:16
Chloromethane	< 9.62	ug/Kg	3/29/2022 17:16
cis-1,2-Dichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
cis-1,3-Dichloropropene	< 9.62	ug/Kg	3/29/2022 17:16
Cyclohexane	< 48.1	ug/Kg	3/29/2022 17:16
Dibromochloromethane	< 9.62	ug/Kg	3/29/2022 17:16
Dichlorodifluoromethane	< 9.62	ug/Kg	3/29/2022 17:16

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**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Red-03222022

**Lab Sample ID:** 221212-02

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Ethylbenzene	< 9.62	ug/Kg	3/29/2022 17:16
Freon 113	< 9.62	ug/Kg	3/29/2022 17:16
Isopropylbenzene	< 9.62	ug/Kg	3/29/2022 17:16
m,p-Xylene	< 9.62	ug/Kg	3/29/2022 17:16
Methyl acetate	< 9.62	ug/Kg	3/29/2022 17:16
Methyl tert-butyl Ether	< 9.62	ug/Kg	3/29/2022 17:16
Methylcyclohexane	< 9.62	ug/Kg	3/29/2022 17:16
Methylene chloride	< 24.0	ug/Kg	3/29/2022 17:16
o-Xylene	< 9.62	ug/Kg	3/29/2022 17:16
Styrene	< 24.0	ug/Kg	3/29/2022 17:16
Tetrachloroethene	< 9.62	ug/Kg	3/29/2022 17:16
Toluene	< 9.62	ug/Kg	3/29/2022 17:16
trans-1,2-Dichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
trans-1,3-Dichloropropene	< 9.62	ug/Kg	3/29/2022 17:16
Trichloroethene	< 9.62	ug/Kg	3/29/2022 17:16
Trichlorofluoromethane	< 9.62	ug/Kg	3/29/2022 17:16
Vinyl chloride	< 9.62	ug/Kg	3/29/2022 17:16

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>121</b>	74.7 - 140		3/29/2022 17:16
4-Bromofluorobenzene	<b>94.1</b>	68 - 130		3/29/2022 17:16
Pentafluorobenzene	<b>115</b>	70.3 - 140		3/29/2022 17:16
Toluene-D8	<b>121</b>	69 - 138		3/29/2022 17:16

**Method Reference(s):** EPA 8260C  
 EPA 5035A - L

**Data File:** z08074.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Red-03222022

Lab Sample ID: 221212-02A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

**TCLP Semi-Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 18:15
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 18:15
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 18:15
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 18:15
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 18:15
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 18:15
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 18:15
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 18:15
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 18:15
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 18:15
Pyridine	< 40.0	ug/L	5000		3/28/2022 18:15

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	92.9	29.6 - 139		3/28/2022 18:15
2-Fluorobiphenyl	72.6	5 - 124		3/28/2022 18:15
2-Fluorophenol	72.6	10 - 122		3/28/2022 18:15
Nitrobenzene-d5	65.2	28.7 - 119		3/28/2022 18:15
Phenol-d5	65.5	10 - 115		3/28/2022 18:15
Terphenyl-d14	80.3	32.2 - 142		3/28/2022 18:15

Method Reference(s): EPA 8270D  
 EPA 1311 / 3510C  
 Preparation Date: 3/28/2022  
 Data File: B60705.D

**TCLP Volatile Organics**

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 16:18
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 16:18
2-Butanone	< 100	ug/L	200000		3/29/2022 16:18
Benzene	< 20.0	ug/L	500		3/29/2022 16:18

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Lab Project ID: 221212

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

Project Reference: Battery Brick

Sample Identifier: Brick-Red-03222022

Lab Sample ID: 221212-02A

Date Sampled: 3/22/2022 15:00

Matrix: TCLP Extract

Date Received 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 16:18
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 16:18
Chloroform	< 20.0	ug/L	6000	3/29/2022 16:18
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 16:18
Trichloroethene	< 20.0	ug/L	500	3/29/2022 16:18
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 16:18
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>126</b>	81.1 - 136		3/29/2022 16:18
4-Bromofluorobenzene	<b>98.9</b>	75.8 - 132		3/29/2022 16:18
Pentafluorobenzene	<b>115</b>	82 - 132		3/29/2022 16:18
Toluene-D8	<b>122</b>	64.6 - 137		3/29/2022 16:18

Method Reference(s): EPA 8260C  
EPA 1311 / 5030C  
Data File: z08071.D

**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 269	ug/Kg		3/25/2022 04:12
1,2,4,5-Tetrachlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,2,4-Trichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,2-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,3-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
1,4-Dichlorobenzene	< 269	ug/Kg		3/25/2022 04:12
2,2-Oxybis (1-chloropropane)	< 269	ug/Kg		3/25/2022 04:12
2,3,4,6-Tetrachlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4,5-Trichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4,6-Trichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dichlorophenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dimethylphenol	< 269	ug/Kg		3/25/2022 04:12
2,4-Dinitrophenol	< 1080	ug/Kg		3/25/2022 04:12
2,4-Dinitrotoluene	< 269	ug/Kg		3/25/2022 04:12
2,6-Dinitrotoluene	< 269	ug/Kg		3/25/2022 04:12
2-Chloronaphthalene	< 269	ug/Kg		3/25/2022 04:12
2-Chlorophenol	< 269	ug/Kg		3/25/2022 04:12
2-Methylnapthalene	< 269	ug/Kg		3/25/2022 04:12
2-Methylphenol	< 269	ug/Kg		3/25/2022 04:12
2-Nitroaniline	< 269	ug/Kg		3/25/2022 04:12
2-Nitrophenol	< 269	ug/Kg		3/25/2022 04:12
3&4-Methylphenol	< 269	ug/Kg		3/25/2022 04:12
3,3'-Dichlorobenzidine	< 269	ug/Kg		3/25/2022 04:12
3-Nitroaniline	< 269	ug/Kg		3/25/2022 04:12
4,6-Dinitro-2-methylphenol	< 360	ug/Kg		3/25/2022 04:12
4-Bromophenyl phenyl ether	< 269	ug/Kg		3/25/2022 04:12
4-Chloro-3-methylphenol	< 269	ug/Kg		3/25/2022 04:12
4-Chloroaniline	< 269	ug/Kg		3/25/2022 04:12

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

4-Chlorophenyl phenyl ether	< 269	ug/Kg	3/25/2022 04:12
4-Nitroaniline	< 269	ug/Kg	3/25/2022 04:12
4-Nitrophenol	< 269	ug/Kg	3/25/2022 04:12
Acenaphthene	< 269	ug/Kg	3/25/2022 04:12
Acenaphthylene	< 269	ug/Kg	3/25/2022 04:12
Acetophenone	< 269	ug/Kg	3/25/2022 04:12
Anthracene	< 269	ug/Kg	3/25/2022 04:12
Atrazine	< 269	ug/Kg	3/25/2022 04:12
Benzaldehyde	< 269	ug/Kg	3/25/2022 04:12
Benzo (a) anthracene	< 269	ug/Kg	3/25/2022 04:12
Benzo (a) pyrene	< 269	ug/Kg	3/25/2022 04:12
Benzo (b) fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Benzo (g,h,i) perylene	< 269	ug/Kg	3/25/2022 04:12
Benzo (k) fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Bis (2-chloroethoxy) methane	< 269	ug/Kg	3/25/2022 04:12
Bis (2-chloroethyl) ether	< 269	ug/Kg	3/25/2022 04:12
Bis (2-ethylhexyl) phthalate	< 269	ug/Kg	3/25/2022 04:12
Butylbenzylphthalate	< 269	ug/Kg	3/25/2022 04:12
Caprolactam	< 269	ug/Kg	3/25/2022 04:12
Carbazole	< 269	ug/Kg	3/25/2022 04:12
Chrysene	< 269	ug/Kg	3/25/2022 04:12
Dibenz (a,h) anthracene	< 269	ug/Kg	3/25/2022 04:12
Dibenzofuran	< 269	ug/Kg	3/25/2022 04:12
Diethyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Dimethyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Di-n-butyl phthalate	< 269	ug/Kg	3/25/2022 04:12
Di-n-octylphthalate	< 269	ug/Kg	3/25/2022 04:12
Fluoranthene	< 269	ug/Kg	3/25/2022 04:12
Fluorene	< 269	ug/Kg	3/25/2022 04:12
Hexachlorobenzene	< 269	ug/Kg	3/25/2022 04:12

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: 221212**
**Client:** Inventum Engineering, P.C.
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Hexachlorobutadiene	< 269	ug/Kg	3/25/2022 04:12
Hexachlorocyclopentadiene	< 1080	ug/Kg	3/25/2022 04:12
Hexachloroethane	< 269	ug/Kg	3/25/2022 04:12
Indeno (1,2,3-cd) pyrene	< 269	ug/Kg	3/25/2022 04:12
Isophorone	< 269	ug/Kg	3/25/2022 04:12
Naphthalene	< 269	ug/Kg	3/25/2022 04:12
Nitrobenzene	< 269	ug/Kg	3/25/2022 04:12
N-Nitroso-di-n-propylamine	< 269	ug/Kg	3/25/2022 04:12
N-Nitrosodiphenylamine	< 269	ug/Kg	3/25/2022 04:12
Pentachlorophenol	< 538	ug/Kg	3/25/2022 04:12
Phenanthrene	< 269	ug/Kg	3/25/2022 04:12
Phenol	< 269	ug/Kg	3/25/2022 04:12
Pyrene	< 269	ug/Kg	3/25/2022 04:12

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>56.8</b>	35.4 - 92.4		3/25/2022 04:12
2-Fluorobiphenyl	<b>40.5</b>	39.6 - 84.4		3/25/2022 04:12
2-Fluorophenol	<b>45.1</b>	35.5 - 78.9		3/25/2022 04:12
Nitrobenzene-d5	<b>35.1</b>	36.5 - 78.2	*	3/25/2022 04:12
Phenol-d5	<b>47.7</b>	37.1 - 78.3		3/25/2022 04:12
Terphenyl-d14	<b>59.9</b>	42.3 - 103		3/25/2022 04:12

**Method Reference(s):** EPA 8270D

EPA 3546

**Preparation Date:** 3/24/2022

**Data File:** B60651.D

### **Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1,1-Trichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1,2,2-Tetrachloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1,2-Trichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1-Dichloroethane	< 5.71	ug/Kg		3/29/2022 17:35
1,1-Dichloroethene	< 5.71	ug/Kg		3/29/2022 17:35

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

1,2,3-Trichlorobenzene	< 14.3	ug/Kg	3/29/2022 17:35
1,2,4-Trichlorobenzene	< 14.3	ug/Kg	3/29/2022 17:35
1,2-Dibromo-3-Chloropropane	< 28.6	ug/Kg	3/29/2022 17:35
1,2-Dibromoethane	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichloroethane	< 5.71	ug/Kg	3/29/2022 17:35
1,2-Dichloropropane	< 5.71	ug/Kg	3/29/2022 17:35
1,3-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,4-Dichlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
1,4-Dioxane	< 28.6	ug/Kg	3/29/2022 17:35
2-Butanone	< 28.6	ug/Kg	3/29/2022 17:35
2-Hexanone	< 14.3	ug/Kg	3/29/2022 17:35
4-Methyl-2-pentanone	< 14.3	ug/Kg	3/29/2022 17:35
Acetone	< 28.6	ug/Kg	3/29/2022 17:35
Benzene	< 5.71	ug/Kg	3/29/2022 17:35
Bromochloromethane	< 14.3	ug/Kg	3/29/2022 17:35
Bromodichloromethane	< 5.71	ug/Kg	3/29/2022 17:35
Bromoform	< 14.3	ug/Kg	3/29/2022 17:35
Bromomethane	< 5.71	ug/Kg	3/29/2022 17:35
Carbon disulfide	< 5.71	ug/Kg	3/29/2022 17:35
Carbon Tetrachloride	< 5.71	ug/Kg	3/29/2022 17:35
Chlorobenzene	< 5.71	ug/Kg	3/29/2022 17:35
Chloroethane	< 5.71	ug/Kg	3/29/2022 17:35
Chloroform	< 5.71	ug/Kg	3/29/2022 17:35
Chloromethane	< 5.71	ug/Kg	3/29/2022 17:35
cis-1,2-Dichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
cis-1,3-Dichloropropene	< 5.71	ug/Kg	3/29/2022 17:35
Cyclohexane	< 28.6	ug/Kg	3/29/2022 17:35
Dibromochloromethane	< 5.71	ug/Kg	3/29/2022 17:35
Dichlorodifluoromethane	< 5.71	ug/Kg	3/29/2022 17:35

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03

**Date Sampled:** 3/22/2022 15:00

**Matrix:** Solid

**Date Received** 3/23/2022

Ethylbenzene	< 5.71	ug/Kg	3/29/2022 17:35
Freon 113	< 5.71	ug/Kg	3/29/2022 17:35
Isopropylbenzene	< 5.71	ug/Kg	3/29/2022 17:35
m,p-Xylene	< 5.71	ug/Kg	3/29/2022 17:35
Methyl acetate	< 5.71	ug/Kg	3/29/2022 17:35
Methyl tert-butyl Ether	< 5.71	ug/Kg	3/29/2022 17:35
Methylcyclohexane	< 5.71	ug/Kg	3/29/2022 17:35
Methylene chloride	< 14.3	ug/Kg	3/29/2022 17:35
o-Xylene	< 5.71	ug/Kg	3/29/2022 17:35
Styrene	< 14.3	ug/Kg	3/29/2022 17:35
Tetrachloroethene	< 5.71	ug/Kg	3/29/2022 17:35
Toluene	< 5.71	ug/Kg	3/29/2022 17:35
trans-1,2-Dichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
trans-1,3-Dichloropropene	< 5.71	ug/Kg	3/29/2022 17:35
Trichloroethene	< 5.71	ug/Kg	3/29/2022 17:35
Trichlorofluoromethane	< 5.71	ug/Kg	3/29/2022 17:35
Vinyl chloride	< 5.71	ug/Kg	3/29/2022 17:35
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b> <b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>120</b>	74.7 - 140	3/29/2022 17:35
4-Bromofluorobenzene	<b>91.7</b>	68 - 130	3/29/2022 17:35
Pentafluorobenzene	<b>116</b>	70.3 - 140	3/29/2022 17:35
Toluene-D8	<b>121</b>	69 - 138	3/29/2022 17:35

**Method Reference(s):** EPA 8260C  
 EPA 5035A - L

**Data File:** z08075.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

**Lab Project ID: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

### **TCLP Semi-Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/28/2022 18:44
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/28/2022 18:44
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/28/2022 18:44
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/28/2022 18:44
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/28/2022 18:44
Hexachlorobenzene	< 40.0	ug/L	130		3/28/2022 18:44
Hexachlorobutadiene	< 40.0	ug/L	500		3/28/2022 18:44
Hexachloroethane	< 40.0	ug/L	3000		3/28/2022 18:44
Nitrobenzene	< 40.0	ug/L	2000		3/28/2022 18:44
Pentachlorophenol	< 80.0	ug/L	100000		3/28/2022 18:44
Pyridine	< 40.0	ug/L	5000		3/28/2022 18:44

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>92.0</b>	29.6 - 139		3/28/2022 18:44
2-Fluorobiphenyl	<b>70.0</b>	5 - 124		3/28/2022 18:44
2-Fluorophenol	<b>72.8</b>	10 - 122		3/28/2022 18:44
Nitrobenzene-d5	<b>67.4</b>	28.7 - 119		3/28/2022 18:44
Phenol-d5	<b>67.1</b>	10 - 115		3/28/2022 18:44
Terphenyl-d14	<b>81.1</b>	32.2 - 142		3/28/2022 18:44

**Method Reference(s):** EPA 8270D  
 EPA 1311 / 3510C  
**Preparation Date:** 3/28/2022  
**Data File:** B60706.D

### **TCLP Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Dichloroethene	< 20.0	ug/L	700		3/29/2022 16:37
1,2-Dichloroethane	< 20.0	ug/L	500		3/29/2022 16:37
2-Butanone	< 100	ug/L	200000		3/29/2022 16:37
Benzene	< 20.0	ug/L	500		3/29/2022 16:37

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: 221212**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Yelw-03222022

**Lab Sample ID:** 221212-03A

**Date Sampled:** 3/22/2022 15:00

**Matrix:** TCLP Extract

**Date Received** 3/23/2022

Carbon Tetrachloride	< 20.0	ug/L	500	3/29/2022 16:37
Chlorobenzene	< 20.0	ug/L	100000	3/29/2022 16:37
Chloroform	< 20.0	ug/L	6000	3/29/2022 16:37
Tetrachloroethene	< 20.0	ug/L	700	3/29/2022 16:37
Trichloroethene	< 20.0	ug/L	500	3/29/2022 16:37
Vinyl chloride	< 20.0	ug/L	200	3/29/2022 16:37
<b><u>Surrogate</u></b>	<b><u>Percent Recovery</u></b>	<b><u>Limits</u></b>	<b><u>Outliers</u></b>	<b><u>Date Analyzed</u></b>
1,2-Dichloroethane-d4	<b>122</b>	81.1 - 136		3/29/2022 16:37
4-Bromofluorobenzene	<b>93.9</b>	75.8 - 132		3/29/2022 16:37
Pentafluorobenzene	<b>116</b>	82 - 132		3/29/2022 16:37
Toluene-D8	<b>122</b>	64.6 - 137		3/29/2022 16:37

**Method Reference(s):** EPA 8260C  
 EPA 1311 / 5030C  
**Data File:** z08072.D



**Method Blank Report**

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

**Project Reference:** Battery Brick

**Lab Project ID:** 221212

**Matrix:** Solid

***Semi-Volatile Organics (Acid/Base Neutrals)***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1-Biphenyl	<278	ug/Kg		3/24/2022 22:55
1,2,4,5-Tetrachlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,2,4-Trichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,2-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,3-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
1,4-Dichlorobenzene	<278	ug/Kg		3/24/2022 22:55
2,2-Oxybis (1-chloropropane)	<278	ug/Kg		3/24/2022 22:55
2,3,4,6-Tetrachlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4,5-Trichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4,6-Trichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dichlorophenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dimethylphenol	<278	ug/Kg		3/24/2022 22:55
2,4-Dinitrophenol	<1110	ug/Kg		3/24/2022 22:55
2,4-Dinitrotoluene	<278	ug/Kg		3/24/2022 22:55
2,6-Dinitrotoluene	<278	ug/Kg		3/24/2022 22:55
2-Chloronaphthalene	<278	ug/Kg		3/24/2022 22:55
2-Chlorophenol	<278	ug/Kg		3/24/2022 22:55
2-Methylnapthalene	<278	ug/Kg		3/24/2022 22:55
2-Methylphenol	<278	ug/Kg		3/24/2022 22:55
2-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
2-Nitrophenol	<278	ug/Kg		3/24/2022 22:55
3&4-Methylphenol	<278	ug/Kg		3/24/2022 22:55
3,3'-Dichlorobenzidine	<278	ug/Kg		3/24/2022 22:55
3-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
4,6-Dinitro-2-methylphenol	<556	ug/Kg		3/24/2022 22:55
4-Bromophenyl phenyl ether	<278	ug/Kg		3/24/2022 22:55
4-Chloro-3-methylphenol	<278	ug/Kg		3/24/2022 22:55

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 Friday, March 25, 2022



***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Semi-Volatile Organics (Acid/Base Neutrals)***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
4-Chloroaniline	<278	ug/Kg		3/24/2022 22:55
4-Chlorophenyl phenyl ether	<278	ug/Kg		3/24/2022 22:55
4-Nitroaniline	<278	ug/Kg		3/24/2022 22:55
4-Nitrophenol	<278	ug/Kg		3/24/2022 22:55
Acenaphthene	<278	ug/Kg		3/24/2022 22:55
Acenaphthylene	<278	ug/Kg		3/24/2022 22:55
Acetophenone	<278	ug/Kg		3/24/2022 22:55
Anthracene	<278	ug/Kg		3/24/2022 22:55
Atrazine	<278	ug/Kg		3/24/2022 22:55
Benzaldehyde	<278	ug/Kg		3/24/2022 22:55
Benzo (a) anthracene	<278	ug/Kg		3/24/2022 22:55
Benzo (a) pyrene	<278	ug/Kg		3/24/2022 22:55
Benzo (b) fluoranthene	<278	ug/Kg		3/24/2022 22:55
Benzo (g,h,i) perylene	<278	ug/Kg		3/24/2022 22:55
Benzo (k) fluoranthene	<278	ug/Kg		3/24/2022 22:55
Bis (2-chloroethoxy) methane	<278	ug/Kg		3/24/2022 22:55
Bis (2-chloroethyl) ether	<278	ug/Kg		3/24/2022 22:55
Bis (2-ethylhexyl) phthalate	<278	ug/Kg		3/24/2022 22:55
Butylbenzylphthalate	<278	ug/Kg		3/24/2022 22:55
Caprolactam	<278	ug/Kg		3/24/2022 22:55
Carbazole	<278	ug/Kg		3/24/2022 22:55
Chrysene	<278	ug/Kg		3/24/2022 22:55
Dibenz (a,h) anthracene	<278	ug/Kg		3/24/2022 22:55
Dibenzofuran	<278	ug/Kg		3/24/2022 22:55
Diethyl phthalate	<278	ug/Kg		3/24/2022 22:55
Dimethyl phthalate	<278	ug/Kg		3/24/2022 22:55
Di-n-butyl phthalate	<278	ug/Kg		3/24/2022 22:55
Di-n-octylphthalate	<278	ug/Kg		3/24/2022 22:55

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**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

**Semi-Volatile Organics (Acid/Base Neutrals)**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Fluoranthene	<278	ug/Kg		3/24/2022 22:55
Fluorene	<278	ug/Kg		3/24/2022 22:55
Hexachlorobenzene	<278	ug/Kg		3/24/2022 22:55
Hexachlorobutadiene	<278	ug/Kg		3/24/2022 22:55
Hexachlorocyclopentadiene	<1110	ug/Kg		3/24/2022 22:55
Hexachloroethane	<278	ug/Kg		3/24/2022 22:55
Indeno (1,2,3-cd) pyrene	<278	ug/Kg		3/24/2022 22:55
Isophorone	<278	ug/Kg		3/24/2022 22:55
Naphthalene	<278	ug/Kg		3/24/2022 22:55
Nitrobenzene	<278	ug/Kg		3/24/2022 22:55
N-Nitroso-di-n-propylamine	<278	ug/Kg		3/24/2022 22:55
N-Nitrosodiphenylamine	<278	ug/Kg		3/24/2022 22:55
Pentachlorophenol	<556	ug/Kg		3/24/2022 22:55
Phenanthrene	<278	ug/Kg		3/24/2022 22:55
Phenol	<278	ug/Kg		3/24/2022 22:55
Pyrene	<278	ug/Kg		3/24/2022 22:55

**Method Reference(s):** EPA 8270D  
EPA 3546  
**Preparation Date:** 3/24/2022  
**Data File:** B60640.D  
**QC Batch ID:** QC220324ABNS  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*QC Report for Laboratory Control Sample*

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

*Semi-Volatile Organics (Acid/Base Neutrals)*

Analyte	Spike	Spike	LCS	LCS %	% Rec	LCS	Date
	Added	Units	Result	Recovery	Limits	Outliers	Analyzed
1,2,4-Trichlorobenzene	2650	ug/Kg	1480	55.8	36.4 - 88		3/24/2022
1,4-Dichlorobenzene	2650	ug/Kg	1420	53.6	34.3 - 78.9		3/24/2022
2,4-Dinitrotoluene	2650	ug/Kg	1560	59.0	40.2 - 99.7		3/24/2022
2-Chlorophenol	3970	ug/Kg	2480	62.6	49.5 - 80.8		3/24/2022
4-Chloro-3-methylphenol	3970	ug/Kg	2630	66.4	52.2 - 87.8		3/24/2022
4-Nitrophenol	3970	ug/Kg	1780	44.9	23.3 - 102		3/24/2022
Acenaphthene	2650	ug/Kg	1640	62.0	43.5 - 87.2		3/24/2022
N-Nitroso-di-n-propylamine	2650	ug/Kg	1470	55.5	32.6 - 89.2		3/24/2022
Pentachlorophenol	3970	ug/Kg	2280	57.3	41.8 - 107		3/24/2022
Phenol	3970	ug/Kg	2470	62.3	48.8 - 79.3		3/24/2022
Pyrene	2650	ug/Kg	1790	67.5	47.1 - 104		3/24/2022

**Method Reference(s):** EPA 8270D  
EPA 3546  
**Preparation Date:** 3/24/2022  
**Data File:** B60641.D  
**QC Number:** LCS 1  
**QC Batch ID:** QC220324ABNS

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**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

**TCLP Semi-Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,4-Dichlorobenzene	<40.0	ug/L		3/28/2022 16:19
2,4,5-Trichlorophenol	<40.0	ug/L		3/28/2022 16:19
2,4,6-Trichlorophenol	<40.0	ug/L		3/28/2022 16:19
2,4-Dinitrotoluene	<40.0	ug/L		3/28/2022 16:19
Cresols (as m,p,o-Cresol)	<80.0	ug/L		3/28/2022 16:19
Hexachlorobenzene	<40.0	ug/L		3/28/2022 16:19
Hexachlorobutadiene	<40.0	ug/L		3/28/2022 16:19
Hexachloroethane	<40.0	ug/L		3/28/2022 16:19
Nitrobenzene	<40.0	ug/L		3/28/2022 16:19
Pentachlorophenol	<80.0	ug/L		3/28/2022 16:19
Pyridine	<40.0	ug/L		3/28/2022 16:19

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
2,4,6-Tribromophenol	88.1	29.6 - 139		3/28/2022 16:19
2-Fluorobiphenyl	62.6	5 - 124		3/28/2022 16:19
2-Fluorophenol	71.5	10 - 122		3/28/2022 16:19
Nitrobenzene-d5	64.9	28.7 - 119		3/28/2022 16:19
Phenol-d5	65.5	10 - 115		3/28/2022 16:19
Terphenyl-d14	78.7	32.2 - 142		3/28/2022 16:19

**Method Reference(s):** EPA 8270D  
EPA 3510C  
**Preparation Date:** 3/28/2022  
**Data File:** B60701.D  
**QC Batch ID:** QC220328ABNT  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*QC Report for Laboratory Control Sample and Control Sample Duplicate*

**Client:**

Inventum Engineering, P.C.

**Project Reference:**

Battery Brick

**Lab Project ID:**

221212

**Matrix:**

TCLP Fluid

***TCLP Semi-Volatile Organics***

Analyte	<u>Added</u>	<u>Added</u>	<u>Units</u>	<u>Result</u>	<u>Result</u>	<u>Recovery</u>	<u>Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Outliers</u>	<u>Difference</u>	<u>Limit</u>	<u>Outliers</u>	<u>Date</u>
	<u>LCS</u>	<u>LCSD</u>	<u>Spike</u>	<u>LCS</u>	<u>LCSD</u>	<u>LCS %</u>	<u>LCSD %</u>	<u>% Rec</u>	<u>LCS</u>	<u>LCSD</u>	<u>Relative %</u>	<u>RPD</u>	<u>RPD</u>	
1,4-Dichlorobenzene	200	200	ug/L	156	156	78.2	77.8	27.5 - 93.4			0.568	71.3		3/28/2022
2,4,6-Trichlorophenol	300	300	ug/L	285	276	95.0	92.1	50.5 - 126			3.17	61.9		3/28/2022
2,4-Dinitrotoluene	200	200	ug/L	188	183	93.9	91.3	55.2 - 112			2.79	40.9		3/28/2022
Pentachlorophenol	300	300	ug/L	299	298	99.6	99.2	26.5 - 160			0.427	120		3/28/2022

**Method Reference(s):**

EPA 8270D  
EPA 3510C

**Preparation Date:**

3/28/2022

**Data File:**

B60702.D  
B60703.D

**QC Number:**

1

**QC Batch ID:**

QC220328ABNT

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*Report Prepared Tuesday, March 29, 2022*



**Method Blank Report**

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1,2,2-Tetrachloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1,2-Trichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1-Dichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,1-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
1,2,3-Trichlorobenzene	<5.00	ug/Kg		3/29/2022 14:07
1,2,4-Trichlorobenzene	<5.00	ug/Kg		3/29/2022 14:07
1,2-Dibromo-3-Chloropropane	<10.0	ug/Kg		3/29/2022 14:07
1,2-Dibromoethane	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichloroethane	<2.00	ug/Kg		3/29/2022 14:07
1,2-Dichloropropane	<2.00	ug/Kg		3/29/2022 14:07
1,3-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,4-Dichlorobenzene	<2.00	ug/Kg		3/29/2022 14:07
1,4-Dioxane	<10.0	ug/Kg		3/29/2022 14:07
2-Butanone	<10.0	ug/Kg		3/29/2022 14:07
2-Hexanone	<5.00	ug/Kg		3/29/2022 14:07
4-Methyl-2-pentanone	<5.00	ug/Kg		3/29/2022 14:07
Acetone	<10.0	ug/Kg		3/29/2022 14:07
Benzene	<2.00	ug/Kg		3/29/2022 14:07
Bromochloromethane	<5.00	ug/Kg		3/29/2022 14:07
Bromodichloromethane	<2.00	ug/Kg		3/29/2022 14:07
Bromoform	<5.00	ug/Kg		3/29/2022 14:07
Bromomethane	<2.00	ug/Kg		3/29/2022 14:07
Carbon disulfide	<2.00	ug/Kg		3/29/2022 14:07
Carbon Tetrachloride	<2.00	ug/Kg		3/29/2022 14:07
Chlorobenzene	<2.00	ug/Kg		3/29/2022 14:07

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***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
Chloroethane	<2.00	ug/Kg		3/29/2022 14:07
Chloroform	<2.00	ug/Kg		3/29/2022 14:07
Chloromethane	<2.00	ug/Kg		3/29/2022 14:07
cis-1,2-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
cis-1,3-Dichloropropene	<2.00	ug/Kg		3/29/2022 14:07
Cyclohexane	<10.0	ug/Kg		3/29/2022 14:07
Dibromochloromethane	<2.00	ug/Kg		3/29/2022 14:07
Dichlorodifluoromethane	<2.00	ug/Kg		3/29/2022 14:07
Ethylbenzene	<2.00	ug/Kg		3/29/2022 14:07
Freon 113	<2.00	ug/Kg		3/29/2022 14:07
Isopropylbenzene	<2.00	ug/Kg		3/29/2022 14:07
m,p-Xylene	<2.00	ug/Kg		3/29/2022 14:07
Methyl acetate	<2.00	ug/Kg		3/29/2022 14:07
Methyl tert-butyl Ether	<2.00	ug/Kg		3/29/2022 14:07
Methylcyclohexane	<2.00	ug/Kg		3/29/2022 14:07
Methylene chloride	<5.00	ug/Kg		3/29/2022 14:07
o-Xylene	<2.00	ug/Kg		3/29/2022 14:07
Styrene	<5.00	ug/Kg		3/29/2022 14:07
Tetrachloroethene	<2.00	ug/Kg		3/29/2022 14:07
Toluene	<2.00	ug/Kg		3/29/2022 14:07
trans-1,2-Dichloroethene	<2.00	ug/Kg		3/29/2022 14:07
trans-1,3-Dichloropropene	<2.00	ug/Kg		3/29/2022 14:07
Trichloroethene	<2.00	ug/Kg		3/29/2022 14:07
Trichlorofluoromethane	<2.00	ug/Kg		3/29/2022 14:07
Vinyl chloride	<2.00	ug/Kg		3/29/2022 14:07

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***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
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<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	124	74.7 - 140		3/29/2022 14:07
4-Bromofluorobenzene	94.2	68 - 130		3/29/2022 14:07
Pentafluorobenzene	116	70.3 - 140		3/29/2022 14:07
Toluene-D8	122	69 - 138		3/29/2022 14:07

**Method Reference(s):** EPA 8260C  
EPA 5035A - L  
**Data File:** z08065.D  
**QC Batch ID:** voas220329  
**QC Number:** Blk 1



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

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

**Project Reference:** Battery Brick

**Lab Project ID:** 221212

**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1,1-Trichloroethane	20.0	ug/Kg	21.4	107	70.9 - 135		3/29/2022
1,1,2,2-Tetrachloroethane	20.0	ug/Kg	19.5	97.3	31.6 - 154		3/29/2022
1,1,2-Trichloroethane	20.0	ug/Kg	21.3	107	62 - 132		3/29/2022
1,1-Dichloroethane	20.0	ug/Kg	21.0	105	73 - 128		3/29/2022
1,1-Dichloroethene	20.0	ug/Kg	19.9	99.6	61.7 - 119		3/29/2022
1,2-Dichlorobenzene	20.0	ug/Kg	18.8	94.1	61 - 118		3/29/2022
1,2-Dichloropropane	20.0	ug/Kg	22.0	110	73.4 - 123		3/29/2022
1,2-Dichloroethane	20.0	ug/Kg	21.3	107	71.3 - 123		3/29/2022
1,3-Dichlorobenzene	20.0	ug/Kg	18.2	91.2	68.7 - 112		3/29/2022
1,4-Dichlorobenzene	20.0	ug/Kg	18.3	91.6	66.9 - 113		3/29/2022
Benzene	20.0	ug/Kg	22.2	111	77.8 - 119		3/29/2022
Bromodichloromethane	20.0	ug/Kg	21.5	108	65.7 - 125		3/29/2022
Bromoform	20.0	ug/Kg	18.5	92.5	54.7 - 130		3/29/2022
Bromomethane	20.0	ug/Kg	16.5	82.7	44.6 - 167		3/29/2022
Carbon Tetrachloride	20.0	ug/Kg	21.2	106	61.8 - 138		3/29/2022
Chlorobenzene	20.0	ug/Kg	19.9	99.7	77.2 - 108		3/29/2022

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**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

**Client:**

Inventum Engineering, P.C.

**Project Reference:**

Battery Brick

**Lab Project ID:**

221212

**Matrix:**

Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
Chloroethane	20.0	ug/Kg	18.9	94.4	55.5 - 151		3/29/2022
Chloroform	20.0	ug/Kg	21.5	108	70.1 - 134		3/29/2022
Chloromethane	20.0	ug/Kg	15.3	76.6	42.4 - 168		3/29/2022
cis-1,3-Dichloropropene	20.0	ug/Kg	21.3	107	66.7 - 122		3/29/2022
Dibromochloromethane	20.0	ug/Kg	21.0	105	61.2 - 130		3/29/2022
Ethylbenzene	20.0	ug/Kg	19.4	97.0	71.6 - 112		3/29/2022
Methylene chloride	20.0	ug/Kg	20.2	101	38.2 - 155		3/29/2022
Tetrachloroethene	20.0	ug/Kg	21.7	109	61.4 - 137		3/29/2022
Toluene	20.0	ug/Kg	22.0	110	71.1 - 124		3/29/2022
trans-1,2-Dichloroethene	20.0	ug/Kg	20.8	104	67.3 - 127		3/29/2022
trans-1,3-Dichloropropene	20.0	ug/Kg	21.6	108	55 - 126		3/29/2022
Trichloroethene	20.0	ug/Kg	22.3	111	69.3 - 128		3/29/2022
Trichlorofluoromethane	20.0	ug/Kg	19.1	95.5	64 - 140		3/29/2022
Vinyl chloride	20.0	ug/Kg	16.3	81.4	51.2 - 160		3/29/2022

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.



***QC Report for Laboratory Control Sample***

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

**Project Reference:** Battery Brick

**Lab Project ID:** 221212

**Matrix:** Solid

***Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
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**Method Reference(s):** EPA 8260C  
EPA 5035A - L

**Data File:** z08064.D

**QC Number:** LCS 1

**QC Batch ID:** voas220329

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.



***Method Blank Report***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

***TCLP Volatile Organics***

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Date Analyzed</u>
1,1-Dichloroethene	<20.0	ug/L		3/29/2022 13:29
1,2-Dichloroethane	<20.0	ug/L		3/29/2022 13:29
2-Butanone	<100	ug/L		3/29/2022 13:29
Benzene	<20.0	ug/L		3/29/2022 13:29
Carbon Tetrachloride	<20.0	ug/L		3/29/2022 13:29
Chlorobenzene	<20.0	ug/L		3/29/2022 13:29
Chloroform	<20.0	ug/L		3/29/2022 13:29
Tetrachloroethene	<20.0	ug/L		3/29/2022 13:29
Trichloroethene	<20.0	ug/L		3/29/2022 13:29
Vinyl chloride	<20.0	ug/L		3/29/2022 13:29

<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Limits</u>	<u>Outliers</u>	<u>Date Analyzed</u>
1,2-Dichloroethane-d4	125	81.1 - 136		3/29/2022 13:29
4-Bromofluorobenzene	103	75.8 - 132		3/29/2022 13:29
Pentafluorobenzene	112	82 - 132		3/29/2022 13:29
Toluene-D8	121	64.6 - 137		3/29/2022 13:29

**Method Reference(s):** EPA 8260C  
EPA 5030  
**Data File:** z08063.D  
**QC Batch ID:** voax220329  
**QC Number:** Blk 1

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, March 30, 2022



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

***QC Report for Laboratory Control Sample***

**Client:** Inventum Engineering, P.C.  
**Project Reference:** Battery Brick  
**Lab Project ID:** 221212  
**Matrix:** TCLP Fluid

***TCLP Volatile Organics***

<u>Analyte</u>	<u>Spike Added</u>	<u>Spike Units</u>	<u>LCS Result</u>	<u>LCS % Recovery</u>	<u>% Rec Limits</u>	<u>LCS Outliers</u>	<u>Date Analyzed</u>
1,1-Dichloroethene	20.0	ug/L	20.1	100	65.5 - 116		3/29/2022
1,2-Dichloroethane	20.0	ug/L	21.7	109	78.3 - 122		3/29/2022
Benzene	20.0	ug/L	22.1	111	81.6 - 114		3/29/2022
Carbon Tetrachloride	20.0	ug/L	21.7	109	76.4 - 129		3/29/2022
Chlorobenzene	20.0	ug/L	19.7	98.7	77.2 - 106		3/29/2022
Chloroform	20.0	ug/L	21.2	106	84.5 - 122		3/29/2022
Tetrachloroethene	20.0	ug/L	21.4	107	64.4 - 130		3/29/2022
Trichloroethene	20.0	ug/L	22.4	112	73.4 - 122		3/29/2022
Vinyl chloride	20.0	ug/L	17.0	85.1	50.9 - 164		3/29/2022
<b>Method Reference(s):</b> EPA 8260C							
<b>Data File:</b> EPA 5030							
<b>QC Number:</b> z08062.D							
<b>QC Batch ID:</b> LCS 1							
<b>QC Batch ID:</b> voax220329							

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.



## Analytical Report Appendix

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

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

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.*

*"H" = Denotes a parameter analyzed outside of holding time.*

*"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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REQUESTED ANALYSIS

## Report Supplements

**Total Cost:**

P.1.F.

See additional page for sample conditions.

2082



## Chain of Custody Supplement

Client: Inventum  
 Lab Project ID: 221212

Completed by: Mollyrail  
 Date: 3/23/22

### Sample Condition Requirements

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

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>5035</u> <u>500A</u>	<input type="checkbox"/>
Comments	<u>Transferred 01 to 2-802 glass jars</u>		
Transferred to method-compliant container	<input checked="" type="checkbox"/> <u>PA 1063-01</u> <u>PA 1053-02, 03</u>	<input type="checkbox"/>	<input type="checkbox"/>
Headspace (<1 mL)	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>TEC PVOA</u>	<input type="checkbox"/>
Comments	<u>transferred 02, 03 to 1000 ml amber glass</u>		
Preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>3°C in cool</u>		
Compliant Sample Quantity/Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			



**PARADIGM**  
ENVIRONMENTAL SERVICES, INC.

*Analytical Report For*  
**Inventum Engineering, P.C.**

*For Lab Project ID*

**221322**

*Referencing*

**Battery Brick**

*Prepared*

**Tuesday, April 5, 2022**

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

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*Emily Faumen*

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

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

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*Report Prepared Tuesday, April 5, 2022*

Page 1 of 12

**Lab Project ID: 221322**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01

**Date Sampled:** 3/28/2022 14:00

**Matrix:** Solid

**Date Received** 3/29/2022

**Semi-Volatile Organics (Acid/Base Neutrals)**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Biphenyl	< 284	ug/Kg		3/30/2022 13:50
1,2,4,5-Tetrachlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,2,4-Trichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,2-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,3-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
1,4-Dichlorobenzene	< 284	ug/Kg		3/30/2022 13:50
2,2-Oxybis (1-chloropropane)	< 284	ug/Kg		3/30/2022 13:50
2,3,4,6-Tetrachlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4,5-Trichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4,6-Trichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dichlorophenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dimethylphenol	< 284	ug/Kg		3/30/2022 13:50
2,4-Dinitrophenol	< 1140	ug/Kg		3/30/2022 13:50
2,4-Dinitrotoluene	< 284	ug/Kg		3/30/2022 13:50
2,6-Dinitrotoluene	< 284	ug/Kg		3/30/2022 13:50
2-Chloronaphthalene	< 284	ug/Kg		3/30/2022 13:50
2-Chlorophenol	< 284	ug/Kg		3/30/2022 13:50
2-Methylnapthalene	< 284	ug/Kg		3/30/2022 13:50
2-Methylphenol	< 284	ug/Kg		3/30/2022 13:50
2-Nitroaniline	< 284	ug/Kg		3/30/2022 13:50
2-Nitrophenol	< 284	ug/Kg		3/30/2022 13:50
3&4-Methylphenol	< 284	ug/Kg		3/30/2022 13:50
3,3'-Dichlorobenzidine	< 284	ug/Kg		3/30/2022 13:50
3-Nitroaniline	< 284	ug/Kg		3/30/2022 13:50
4,6-Dinitro-2-methylphenol	< 380	ug/Kg		3/30/2022 13:50
4-Bromophenyl phenyl ether	< 284	ug/Kg		3/30/2022 13:50
4-Chloro-3-methylphenol	< 284	ug/Kg		3/30/2022 13:50
4-Chloroaniline	< 284	ug/Kg		3/30/2022 13:50

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**Lab Project ID: 221322**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01

**Date Sampled:** 3/28/2022 14:00

**Matrix:** Solid

**Date Received** 3/29/2022

4-Chlorophenyl phenyl ether	< 284	ug/Kg	3/30/2022 13:50
4-Nitroaniline	< 284	ug/Kg	3/30/2022 13:50
4-Nitrophenol	< 284	ug/Kg	3/30/2022 13:50
Acenaphthene	< 284	ug/Kg	3/30/2022 13:50
Acenaphthylene	< 284	ug/Kg	3/30/2022 13:50
Acetophenone	< 284	ug/Kg	3/30/2022 13:50
Anthracene	< 284	ug/Kg	3/30/2022 13:50
Atrazine	< 284	ug/Kg	3/30/2022 13:50
Benzaldehyde	< 284	ug/Kg	3/30/2022 13:50
Benzo (a) anthracene	< 284	ug/Kg	3/30/2022 13:50
Benzo (a) pyrene	< 284	ug/Kg	3/30/2022 13:50
Benzo (b) fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Benzo (g,h,i) perylene	< 284	ug/Kg	3/30/2022 13:50
Benzo (k) fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Bis (2-chloroethoxy) methane	< 284	ug/Kg	3/30/2022 13:50
Bis (2-chloroethyl) ether	< 284	ug/Kg	3/30/2022 13:50
Bis (2-ethylhexyl) phthalate	< 284	ug/Kg	3/30/2022 13:50
Butylbenzylphthalate	< 284	ug/Kg	3/30/2022 13:50
Caprolactam	< 284	ug/Kg	3/30/2022 13:50
Carbazole	< 284	ug/Kg	3/30/2022 13:50
Chrysene	< 284	ug/Kg	3/30/2022 13:50
Dibenz (a,h) anthracene	< 284	ug/Kg	3/30/2022 13:50
Dibenzofuran	< 284	ug/Kg	3/30/2022 13:50
Diethyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Dimethyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Di-n-butyl phthalate	< 284	ug/Kg	3/30/2022 13:50
Di-n-octylphthalate	< 284	ug/Kg	3/30/2022 13:50
Fluoranthene	< 284	ug/Kg	3/30/2022 13:50
Fluorene	< 284	ug/Kg	3/30/2022 13:50
Hexachlorobenzene	< 284	ug/Kg	3/30/2022 13:50

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01

Date Sampled: 3/28/2022 14:00

Matrix: Solid

Date Received 3/29/2022

Hexachlorobutadiene	< 284	ug/Kg	3/30/2022 13:50
Hexachlorocyclopentadiene	< 1140	ug/Kg	3/30/2022 13:50
Hexachloroethane	< 284	ug/Kg	3/30/2022 13:50
Indeno (1,2,3-cd) pyrene	< 284	ug/Kg	3/30/2022 13:50
Isophorone	< 284	ug/Kg	3/30/2022 13:50
Naphthalene	< 284	ug/Kg	3/30/2022 13:50
Nitrobenzene	< 284	ug/Kg	3/30/2022 13:50
N-Nitroso-di-n-propylamine	< 284	ug/Kg	3/30/2022 13:50
N-Nitrosodiphenylamine	< 284	ug/Kg	3/30/2022 13:50
Pentachlorophenol	< 568	ug/Kg	3/30/2022 13:50
Phenanthrene	< 284	ug/Kg	3/30/2022 13:50
Phenol	< 284	ug/Kg	3/30/2022 13:50
Pyrene	< 284	ug/Kg	3/30/2022 13:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	56.9	35.4 - 92.4		3/30/2022 13:50
2-Fluorobiphenyl	52.5	39.6 - 84.4		3/30/2022 13:50
2-Fluorophenol	57.2	35.5 - 78.9		3/30/2022 13:50
Nitrobenzene-d5	45.2	36.5 - 78.2		3/30/2022 13:50
Phenol-d5	58.1	37.1 - 78.3		3/30/2022 13:50
Terphenyl-d14	56.4	42.3 - 103		3/30/2022 13:50

Method Reference(s): EPA 8270D

EPA 3546

Preparation Date: 3/30/2022

Data File: B60764.D

**Volatile Organics**

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1,2,2-Tetrachloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1,2-Trichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1-Dichloroethane	< 8.00	ug/Kg		4/4/2022 13:36
1,1-Dichloroethene	< 8.00	ug/Kg		4/4/2022 13:36

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Report Prepared Tuesday, April 5, 2022

Page 4 of 12

**Lab Project ID: 221322**
**Client:** **Inventum Engineering, P.C.**
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01

**Date Sampled:** 3/28/2022 14:00

**Matrix:** Solid

**Date Received** 3/29/2022

1,2,3-Trichlorobenzene	< 20.0	ug/Kg	4/4/2022 13:36
1,2,4-Trichlorobenzene	< 20.0	ug/Kg	4/4/2022 13:36
1,2-Dibromo-3-Chloropropane	< 40.0	ug/Kg	4/4/2022 13:36
1,2-Dibromoethane	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichloroethane	< 8.00	ug/Kg	4/4/2022 13:36
1,2-Dichloropropane	< 8.00	ug/Kg	4/4/2022 13:36
1,3-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,4-Dichlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
1,4-Dioxane	< 40.0	ug/Kg	4/4/2022 13:36
2-Butanone	< 40.0	ug/Kg	4/4/2022 13:36
2-Hexanone	< 20.0	ug/Kg	4/4/2022 13:36
4-Methyl-2-pentanone	< 20.0	ug/Kg	4/4/2022 13:36
Acetone	< 40.0	ug/Kg	4/4/2022 13:36
Benzene	< 8.00	ug/Kg	4/4/2022 13:36
Bromochloromethane	< 20.0	ug/Kg	4/4/2022 13:36
Bromodichloromethane	< 8.00	ug/Kg	4/4/2022 13:36
Bromoform	< 20.0	ug/Kg	4/4/2022 13:36
Bromomethane	< 8.00	ug/Kg	4/4/2022 13:36
Carbon disulfide	< 8.00	ug/Kg	4/4/2022 13:36
Carbon Tetrachloride	< 8.00	ug/Kg	4/4/2022 13:36
Chlorobenzene	< 8.00	ug/Kg	4/4/2022 13:36
Chloroethane	< 8.00	ug/Kg	4/4/2022 13:36
Chloroform	< 8.00	ug/Kg	4/4/2022 13:36
Chloromethane	< 8.00	ug/Kg	4/4/2022 13:36
cis-1,2-Dichloroethene	< 8.00	ug/Kg	4/4/2022 13:36
cis-1,3-Dichloropropene	< 8.00	ug/Kg	4/4/2022 13:36
Cyclohexane	< 40.0	ug/Kg	4/4/2022 13:36
Dibromochloromethane	< 8.00	ug/Kg	4/4/2022 13:36
Dichlorodifluoromethane	< 8.00	ug/Kg	4/4/2022 13:36

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Lab Project ID: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01

Date Sampled: 3/28/2022 14:00

Matrix: Solid

Date Received 3/29/2022

Ethylbenzene	< 8.00	ug/Kg	4/4/2022	13:36
Freon 113	< 8.00	ug/Kg	4/4/2022	13:36
Isopropylbenzene	< 8.00	ug/Kg	4/4/2022	13:36
m,p-Xylene	< 8.00	ug/Kg	4/4/2022	13:36
Methyl acetate	< 8.00	ug/Kg	4/4/2022	13:36
Methyl tert-butyl Ether	< 8.00	ug/Kg	4/4/2022	13:36
Methylcyclohexane	< 8.00	ug/Kg	4/4/2022	13:36
Methylene chloride	< 20.0	ug/Kg	4/4/2022	13:36
o-Xylene	< 8.00	ug/Kg	4/4/2022	13:36
Styrene	< 20.0	ug/Kg	4/4/2022	13:36
Tetrachloroethene	< 8.00	ug/Kg	4/4/2022	13:36
Toluene	< 8.00	ug/Kg	4/4/2022	13:36
trans-1,2-Dichloroethene	< 8.00	ug/Kg	4/4/2022	13:36
trans-1,3-Dichloropropene	< 8.00	ug/Kg	4/4/2022	13:36
Trichloroethene	< 8.00	ug/Kg	4/4/2022	13:36
Trichlorofluoromethane	< 8.00	ug/Kg	4/4/2022	13:36
Vinyl chloride	< 8.00	ug/Kg	4/4/2022	13:36
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
1,2-Dichloroethane-d4	125	74.7 - 140		4/4/2022 13:36
4-Bromofluorobenzene	96.5	68 - 130		4/4/2022 13:36
Pentafluorobenzene	122	70.3 - 140		4/4/2022 13:36
Toluene-D8	124	69 - 138		4/4/2022 13:36

Method Reference(s): EPA 8260C  
EPA 5035A - L

Data File: z08191.D

*This sample was not collected following SW846 5035A specifications. Accordingly, any Volatiles soil results that are less than 200 ug/Kg, including Non Detects, may be biased low, per ELAP method 5035 guidance document from 11/15/2012.*

**Lab Project ID: 221322**
**Client:** Inventum Engineering, P.C.
**Project Reference:** Battery Brick

**Sample Identifier:** Brick-Gray-03282022

**Lab Sample ID:** 221322-01A

**Date Sampled:** 3/28/2022 14:00

**Matrix:** TCLP Extract

**Date Received** 3/29/2022

### **TCLP Semi-Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,4-Dichlorobenzene	< 40.0	ug/L	7500		4/1/2022 18:49
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		4/1/2022 18:49
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		4/1/2022 18:49
2,4-Dinitrotoluene	< 40.0	ug/L	130		4/1/2022 18:49
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		4/1/2022 18:49
Hexachlorobenzene	< 40.0	ug/L	130		4/1/2022 18:49
Hexachlorobutadiene	< 40.0	ug/L	500		4/1/2022 18:49
Hexachloroethane	< 40.0	ug/L	3000		4/1/2022 18:49
Nitrobenzene	< 40.0	ug/L	2000		4/1/2022 18:49
Pentachlorophenol	< 80.0	ug/L	100000		4/1/2022 18:49
Pyridine	< 40.0	ug/L	5000		4/1/2022 18:49

<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
2,4,6-Tribromophenol	<b>88.9</b>	29.6 - 139		4/1/2022 18:49
2-Fluorobiphenyl	<b>65.8</b>	5 - 124		4/1/2022 18:49
2-Fluorophenol	<b>73.3</b>	10 - 122		4/1/2022 18:49
Nitrobenzene-d5	<b>71.8</b>	28.7 - 119		4/1/2022 18:49
Phenol-d5	<b>66.9</b>	10 - 115		4/1/2022 18:49
Terphenyl-d14	<b>77.8</b>	32.2 - 142		4/1/2022 18:49

**Method Reference(s):** EPA 8270D  
 EPA 1311 / 3510C  
**Preparation Date:** 4/1/2022  
**Data File:** B60808.D

### **TCLP Volatile Organics**

<b>Analyte</b>	<b>Result</b>	<b>Units</b>	<b>Regulatory Limit</b>	<b>Qualifier</b>	<b>Date Analyzed</b>
1,1-Dichloroethene	< 20.0	ug/L	700		4/1/2022 15:32
1,2-Dichloroethane	< 20.0	ug/L	500		4/1/2022 15:32
2-Butanone	< 100	ug/L	200000		4/1/2022 15:32
Benzene	< 20.0	ug/L	500		4/1/2022 15:32

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: 221322

Client: Inventum Engineering, P.C.

Project Reference: Battery Brick

Sample Identifier: Brick-Gray-03282022

Lab Sample ID: 221322-01A

Date Sampled: 3/28/2022 14:00

Matrix: TCLP Extract

Date Received 3/29/2022

Carbon Tetrachloride	< 20.0	ug/L	500	4/1/2022 15:32
Chlorobenzene	< 20.0	ug/L	100000	4/1/2022 15:32
Chloroform	< 20.0	ug/L	6000	4/1/2022 15:32
Tetrachloroethene	< 20.0	ug/L	700	4/1/2022 15:32
Trichloroethene	< 20.0	ug/L	500	4/1/2022 15:32
Vinyl chloride	< 20.0	ug/L	200	4/1/2022 15:32
<b>Surrogate</b>	<b>Percent Recovery</b>	<b>Limits</b>	<b>Outliers</b>	<b>Date Analyzed</b>
1,2-Dichloroethane-d4	<b>131</b>	81.1 - 136		4/1/2022 15:32
4-Bromofluorobenzene	<b>104</b>	75.8 - 132		4/1/2022 15:32
Pentafluorobenzene	<b>129</b>	82 - 132		4/1/2022 15:32
Toluene-D8	<b>132</b>	64.6 - 137		4/1/2022 15:32

Method Reference(s): EPA 8260C  
EPA 1311 / 5030C  
Data File: z08162.D



## Analytical Report Appendix

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

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

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.*

*"H" = Denotes a parameter analyzed outside of holding time.*

*"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.

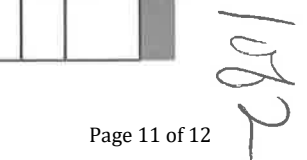
LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders 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.

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.

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## Chain of Custody Supplement

Client: Inventum

Completed by: Molly Vail

Lab Project ID: 221322

Date: 3/29/22

### Sample Condition Requirements

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

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>5035</u>	<input type="checkbox"/>
Comments	<u>Sample rec'd in plastic bag transferred to 1000ml-willemouth glass jar</u>		
Transferred to method-compliant container	<input checked="" type="checkbox"/> <u>PD to mg</u>	<input type="checkbox"/>	<input type="checkbox"/>
Headspace (<1 mL)	<input type="checkbox"/>	<input checked="" type="checkbox"/> <u>TCU PVOA</u>	<input checked="" type="checkbox"/>
Comments			
Preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments			
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			
Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	<u>5°C in cool</u>		
Compliant Sample Quantity/Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments			



**AmeriSci Richmond**

13635 GENITO ROAD  
MIDLOTHIAN, VIRGINIA 23112  
TEL: 8047631200 FAX: 8047631800

March 19, 2022

56 Services, Inc  
Attn: Robert Barr  
PO Box 561  
Buffalo, NY 14213

RE: 56 Services, Inc  
Job Number 122031865  
P.O. #22-03037  
22-03037; 3875 River road Battery

Dear Robert Barr:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following 56 Services, Inc samples, received at AmeriSci on Saturday, March 19, 2022, for a rush turnaround:

01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17

The 17 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 2710 2679 9529 B. 56 Services, Inc requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Brian Keith". The signature is fluid and cursive, with a prominent initial "T" and a stylized "K".

T. Brian Keith  
Laboratory Director | Authorized Signatory

**AmeriSci Richmond**

13635 GENITO ROAD  
MIDLOTHIAN, VIRGINIA 23112  
TEL: (804) 763-1200 • FAX: (804) 763-1800

## PLM Bulk Asbestos Report

56 Services, Inc  
Attn: Robert Barr  
PO Box 561

Buffalo, NY 14213

**Date Received** 03/19/22 **AmeriSci Job #** 122031865  
**Date Examined** 03/19/22 **P.O. #**  
**ELAP #** 10984 **Page** 1 of 4  
**RE:** 22-03037; 3875 River road Battery

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Red, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-01	No	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
02 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Yellow/Tan, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-02	No	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
03 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Olive, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-03	No	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
04 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-04	No	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
05 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Brown, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-05	No	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22

# PLM Bulk Asbestos Report

22-03037; 3875 River road Battery

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
06 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Yellow, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-06	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
07 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Off-White, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-07	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
08 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Yellow, Heterogeneous, Non-Fibrous, Brick <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-08.1	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
08 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Gray, Heterogeneous, Non-Fibrous, Mortar <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-08.2	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
09 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Pink, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-09	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
10 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Gray, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-10	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22

## PLM Bulk Asbestos Report

22-03037; 3875 River road Battery

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
11 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Brown, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose Trace, Non-fibrous 100%	122031865-11	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
12 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Orange, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-12	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
13 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-13	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
14 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> White/Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-14	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
15 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> Black, Homogeneous, Non-Fibrous, Cementitious, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Non-fibrous 100%	122031865-15	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
16 <b>Location:</b> Debris; Debris Pile  <b>Analyst Description:</b> White, Heterogeneous, Non-Fibrous, Bulk Material <b>Asbestos Types:</b> <b>Other Material:</b> Cellulose 2%, Fibrous glass 70%, Non-fibrous 28%	122031865-16	<b>No</b>	NAD (by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22

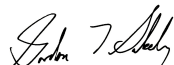
## PLM Bulk Asbestos Report

22-03037; 3875 River road Battery

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
17	122031865-17	No	NAD
Location: Debris; Debris Pile			(by NYS ELAP 198.1) by Gordon T. Saleeby on 03/19/22
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100%			

### Reporting Notes:

Analyzed by: Gordon T. Saleeby  
Date: 3/19/2022



Reviewed by: Gordon T. Saleeby



\*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #237649, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

22-03037 122031865  
 56 Services Project Number Lab ID Number  
 3875 RIVER ROAD BATTERY  
 Project Address  
 18 MAR 22 17  
 Sampling Date Number of Samples Results Due By  
 RUSH 48H 3D 5D  
 (24H if not selected)

Sample #	ABC	TEM	Material Description	Sample Location	Material Location	Quantity
01			Debris	Debris P.V.	BATTERY	
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						

☐ Transite \_\_\_\_\_ Reno \_\_\_\_\_ Additional Notes:  
☐ Duct \_\_\_\_\_ Demo \_\_\_\_\_

**Additional Instructions:**

- ☒ Analyze PLM then TEM if negative AND NOB  
☐ Stop ALL analysis if \_\_\_\_\_ ACM  
☐ TEM Analysis only (or as marked above)  
☐ Positive Stop per group:

**Analyze for the following State:**

- ☐ Pennsylvania  
☐ Louisiana  
☐ West Virginia  
☐ Other

Please analyze as per NYS  
 If no other state is selected

email results to - rob@56services.com

RECEIVED

MAR 19 2022

Sampled / Relinquished By: \_\_\_\_\_ Date and Time: \_\_\_\_\_ Results By: \_\_\_\_\_ Date and Time: \_\_\_\_\_

PO Box 561 Buffalo, NY 14213  
 716.341.8601 (ph.) 716.408.9567 (fax)

www.56services.com

56  
 services



**AmeriSci Richmond**

13635 GENITO ROAD  
MIDLOTHIAN, VIRGINIA 23112  
TEL: 8047631200 FAX: 8047631800

March 16, 2022

56 Services, Inc  
Attn: Robert Barr  
PO Box 561  
Buffalo, NY 14213

RE: 56 Services, Inc  
Job Number 122031684  
P.O. #22-03026  
22-03026; 3875 River Road - Battery

Dear Robert Barr:

Enclosed are the results of Asbestos Analysis - Bulk Protocol of the following 56 Services, Inc samples, received at AmeriSci on Wednesday, March 16, 2022, for a 24 hour turnaround:

01, 02, 03

The 3 samples, placed in zip lock bag, were shipped to AmeriSci via Fed Ex 8170 2012 7535 B. 56 Services, Inc requested ELAP PLM/TEM analysis of these samples.

The results of the analyses which were performed under NYSDOH ELAP Lab Certification # 10984 following ELAP 198.4 TEM guidelines are presented within the Summary Table of this report. The presence of matrix reduction data in the Summary Table normally indicates an NOB sample. For NOB samples the individual matrix reduction and TEM analysis results are listed in Table I. Complete PLM results for individual samples analyzed by ELAP 198.1 (friable) and ELAP 198.6 (NOB) are presented in the PLM Bulk Asbestos Report. This combined report relates ONLY to sample analysis expressed as percent composition by weight and percent asbestos. This report must not be used to claim product endorsement or approval by these laboratories, NVLAP, ELAP or any other associated agency. The National Institute of Standards and Technology accreditation requirements, mandate that this report must not be reproduced, except in full without the written approval of the laboratory. This report may contain specific data not covered by NVLAP or ELAP accreditations respectively, if so identified in relevant footnotes.

AmeriSci appreciates this opportunity to serve your organization. Please contact us for any further assistance or with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Brian Keith". The signature is fluid and cursive, with a prominent initial "T" and a stylized "K".

T. Brian Keith  
Laboratory Director | Authorized Signatory

**AmeriSci Richmond**

13635 GENITO ROAD  
MIDLOTHIAN, VIRGINIA 23112  
TEL: (804) 763-1200 • FAX: (804) 763-1800

## PLM Bulk Asbestos Report

56 Services, Inc  
Attn: Robert Barr  
PO Box 561

Buffalo, NY 14213

**Date Received** 03/16/22 **AmeriSci Job #** 122031684  
**Date Examined** 03/16/22 **P.O. #**  
**Page** 1 **of** 1  
**RE:** 22-03026; 3875 River Road - Battery

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	122031684-01	No	NAD (by NYS ELAP 198.1) by C. David Mintz on 03/16/22
<b>Location:</b> Door Gasket Insul, Battery			
<b>Analyst Description:</b> OffWhite/ PaleYellow, Homogeneous, Fibrous, Bulk Material			
<b>Asbestos Types:</b>			
<b>Other Material:</b> Fibrous glass 95%, Non-fibrous 5%			
02	122031684-02	No	NAD (by NYS ELAP 198.1) by C. David Mintz on 03/16/22
<b>Location:</b> Door Gasket Insul, Battery			
<b>Analyst Description:</b> OffWhite/Pale Yellow, Homogeneous, Fibrous, Bulk Material			
<b>Asbestos Types:</b>			
<b>Other Material:</b> Fibrous glass 95%, Non-fibrous 5%			
03	122031684-03	No	NAD (by NYS ELAP 198.1) by C. David Mintz on 03/16/22
<b>Location:</b> Door Gasket Insul, Battery			
<b>Analyst Description:</b> OffWhite/PaleYellow, Homogeneous, Fibrous, Bulk Material			
<b>Asbestos Types:</b>			
<b>Other Material:</b> Fibrous glass 95%, Non-fibrous 5%			

**Reporting Notes:**

Analyzed by: C. David Mintz  
Date: 3/16/2022

Reviewed by: C. David Mintz

\*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis using Olympus, Model BH-2 microscope, Serial #210972, by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

22 - 03026

**56 Services Project Number**

**Lab ID Number**

15 MAR 22

Sampling Date

**RUSH 48H 3D 5D**  
(24H if not selected)

**Project Address****Number of Samples**

### Results Due By

Quantity

[illegible]

☐ *Transite* \_\_\_\_\_

**Additional Notes:**

☐ *Duct* \_\_\_\_\_

**Additional Instructions:**

- ☐ Analyze PLM then TEM if negative AND NOB
- ☐ Stop ALL analysis if \_\_\_\_\_ ACM
- ☐ TEM Analysis only (or as marked above)
- ☐ Positive Stop per group:

**Analyze for the following State:**

- ☐ *Pennsylvania*  
☐ *Louisiana*  
☐ *West Virginia*  
☐ *Other*\_\_\_\_\_

*Please analyze as per NYS  
If no other state is selected*

RECEIVED  
e-mail results to [rob@56services.com](mailto:rob@56services.com)

MAR 16 2022

**BY:**

### 3. Brick Volume Estimate

## Battery Tunnel Quantities

R. Birx

6/28/2022

<b>Totals (Cubic Yards)</b>	
4.5' Battery Brick	880
6" No. 57 Stone	60
3' Surface Fill (from excavated windrow)	560

### Tunnel Dimensions

Length (ft)	400
West Depth (ft)	10
East Depth (ft)	14 (Estimated at stack base)
Tunnel Width (ft)	8
Tunnel Wall Area (ft2) (CAD)	4800 (Elevation View/Side wall)
Total Tunnel Vol (ft3)	38400
Total Tunnel Vol (CY)	1500

### Stone bedding and Pipe Cover

0.5 foot of 57 stone vol (ft3)	1600
0.5 foot of 57 stone vol (CY)	60

### Battery Brick Fill Volume

		<b>Thickness (ft)</b>
Battery Brick Vol (ft3)	21700	4.5
Battery Brick Vol (CY)	880	

### Windrow - Excavated Material

		<b>Thickness (ft)</b>
Volume (ft3)	15100	3
Volume (CY)	560	
Vol Concrete Pile (ft3)	1200	
Vol Concrete Pile (CY)	44	

### Conveyance Line

Distance (ft) (TBD)	1100 (1028 Measured in CAD)
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