INVENTUM ENGINEERING, PC

May 1, 2020

To: Benjamin McPherson (NYSDEC)

From: John Black (Inventum)

CC: Jon Williams (Riverview); John Yensan (OSC); Craig Slater (CS Law); Todd Waldrop and James Edwards (Inventum)

RE: Light Oil Area Storm Water Characterization Sampling Summary Report
Riverview Innovation & Technology Campus, Inc.
Brownfield Cleanup Program Site No. C915353
Town of Tonawanda, New York

Inventum Engineering, P.C. (Inventum), on behalf of Riverview Innovation & Technology Campus, Inc. (Riverview), is submitting this Light Oil Area Storm Water Characterization Report (sampling report) to the New York State Department of Environmental Conservation (NYSDEC) for the Riverview Brownfield Cleanup Program (BCP) Site (#C915353) located at 3875 River Road, Tonawanda, New York.

Summary and Background

On March 24, 2020 the secondary containment structures and area were inspected by:

- Benjamin McPherson (NYSDEC),
- John Black (Inventum), and
- Keith Adderley (Inventum).

With respect to the New York State Governor's Executive Order 202.8 "New York State on PAUSE", it was considered essential work due to the potential for accumulation of stormwater in the light oil area secondary containment that has limited freeboard. Social distancing was maintained when possible.

Sampling was completed in accordance with the March 19, 2020 Work Plan approved by the NYSDEC. The only variation from the Work Plan was the addition of the collection and testing of multiple bag samples of the sediment in the secondary containments prior to the selection of the location of the sample for testing in the laboratory.

481 Carlisle Drive
Suite 202
Herndon, Virginia 20170

Background

The concrete walled light oil processing secondary containment area (Figure 1) surrounding the former light oil storage tanks PT-04[1], PT-12, and PT-13 (nomenclature designated for site management purposes) provided spill protection while the Tonawanda Coke facility was in operation.

- In the former Light Oil Area (Figure 1):
    - PT-04 was labeled "abandoned" in a 2010 drawing (Attachment A). In a circa 1982 drawing (T-R-70-F) the tank was identified as a Wash Oil Circulating Tank (16,000 gallon).
    - PT-12 was labeled "abandoned" in a 2010 drawing. In a circa 1982 drawing (T-R-70-F) the tank was identified as a Wash Oil Decanter Tank (20,000 gallon).
    - PT-13 was labeled "abandoned" in a 2010 drawing. In a circa 1982 drawing (Attached T-R-70-F) the tank was identified as a Muck Tank (6,000 gallon).

The material, if any, contained in the former Wash Oil Circulating Tank (PT-04), Wash Oil Decanter Tank (PT-12), and the "Muck" Tank (PT-13) may meet the definition of a K-143 listed hazardous waste under 6NYCRR Part 371 and 40 CFR §261.32. The stairs to the top of these tanks were blocked, and absent the appropriate safety equipment, the tops of the tanks were not accessed during this sampling effort.

The concrete walled former ammonia concentrating area secondary containment (Figure 1) surrounding the former caustic and weak ammonia liquor storage tanks PT-02, PT-03, ST01 and ST-02 (nomenclature designated for site management purposes) provided spill protection while the Tonawanda Coke facility was in operation.

- In the Ammonia Concentrating Area:
    - PT-02 and PT-03 were labeled weak ammonia liquor storage tanks in both 2010 and circa 1982 drawings. Both are labeled as having 174,000-gallon capacity. Reportedly there is 2 to 3 feet of sludge and up to one foot of liquid in each. That was not verified during this program.
    - ST01 was labeled "abandoned" in a 2010 drawing (Attachment A). The tank was not shown on the circa 1982 drawing. There are multiple openings in the top of the tank. There is liquid in the tank, the depth of approximately 1/3 of the diameter from the bottom.
    - ST02 was labeled "caustic storage tank" in a 2010 drawing (Attachment A). The tank was not shown on the circa 1982 drawing. There are multiple openings in the top of the tank, and it is empty.

The contents[2] of the tanks, if any, within the light oil secondary containment are not in direct contact with accumulated stormwater but there are two pipes from two of the vessels that do not appear to have been properly closed. Out an abundance of caution , the accumulated stormwater in the light oil secondary containment area will be treated through activated carbon prior to discharge to the POTW. and the POTW will be notified that this water was possibly a K-143 waste. There are pipes from the

[1] Note: It has been determined that the designations PT and ST were not assigned by staff familiar with the plant or operations. Many storage tanks are designated with PT and several process tanks are designated with ST.
[2] The tanks in the light oil area were labeled as "abandoned" in a set of 2010 drawings. The contents, if any, will be tested during and IRM or the RI.

muck tank and decanter that are either not closed, or ineffectively sealed with a wooden plug, and the secondary containment area contains debris and rubble, and does not appear to have been carefully maintained by the previous owner. Riverview intends to clean the light oil secondary containment area as part of a general housekeeping and site safety and security plan for the BCP Site (to be submitted under separate cover). Prior to being able to clean this area, stormwater contained within the secondary containment is being managed as a K-143 listed waste. This water will be treated using granular activated carbon prior to discharge in accordance with existing permits that allow for discharge of treated stormwater from diked/bermed areas. Settling of the water in the secondary containment was the implemented treatment practice during the emergency response. After the light oil processing secondary containment area has been cleaned and decontaminated and the possibility of any release from the vessels has been eliminated, stormwater accumulated within the limits may be managed under the requirements of a NYSDEC approved Stormwater Water Pollution Prevention Plan (SWPPP) for the BCP Site[3].

The contents[4] of the tanks within the weak ammonia liquor secondary containment are not in contact with the stormwater. The secondary containment contains debris and rubble and does not appear to have been carefully maintained by the previous owner. The material at the northeast corner of the secondary containment contain what appears to be coal and some solid tar globules. Riverview intends to clean the weak ammonia liquor oil secondary containment area as part of a general housekeeping and site safety and security plan for the BCP Site (to be submitted under separate cover). Prior to being able to clean this area, stormwater contained within the secondary containment must be characterized and managed in accordance with existing permits that allow for discharge of treated stormwater from diked/bermed areas. Settling of the water in the secondary containment was the implemented treatment practice during the emergency response.

Accumulated water from precipitation must be periodically removed to eliminate a safety hazard associated with access to electrical equipment in the containment and allow access to remove debris and rubble. There is an estimated 45,000 gallons of water in the weak ammonia liquor secondary containment around PT-02 and PT-03 (average depth of 11 inches with water over approximately 55 percent of the area [12,000 square feet]) and 9,200 gallons of water in the secondary containment around PT04, PT-12 and PT-13 (maximum depth of 8 inches with water over 80 percent of the secondary containment [2,300 square feet]). While the water in the containment is from precipitation and not a process, the debris, rubble, and other materials in the secondary containment are in contact with the accumulated water. The material, if any, contained in the former Wash Oil Circulating Tank (PT-04), Wash Oil Decanter tank (PT-12) , and the "Muck" Tank (PT-13) may meet the definition of a K-143 listed hazardous waste under 6NYCRR Part 371 and 40 CFR §261.32. Further, Inventum observed conditions that may allow for the potential contact between precipitation and the contents of the tanks such as ineffectively sealed pipes from the muck tank and decanter.

The liquid materials within the secondary containments will be discharged to the Town of Tonawanda sewer system in accordance with Riverview's existing permit (Industrial Sewer Connection Permit No. 331) until the solids are removed and the concrete cleaned. Secondary containment water after

[3] Inventum submitted a Draft SWPPP to the NYSDEC on April 25, 2020.
[4] The tanks in the light oil area were labeled as "abandoned" in a set of 2010 drawings. The contents, if any, will be tested during and IRM or the RI.

sampling and decontamination will be managed in accordance with an approved BCP Site SWPPP. In order to verify that the water is suitable for discharge to the sewer, Inventum, under the supervision of the NYSDEC, collected samples from the accumulated water in the two secondary containment areas.

In addition to the surface water samples, representative samples of the solids in the secondary containments were collected. One sample was collected from each secondary containment. The sample locations were based on the results of photoionization detector (PID) measurements of sediment samples collected around the secondary containments.

Scope of Work

Surface Water Sampling

Four (4) samples of water were collected from within the secondary containment areas shown on Figure 2. Two (2) samples were collected from the secondary containment enclosing former process tanks PT-04, PT-12, and PT-13 and two (2) samples were collected from the secondary containment area enclosing former process tanks PT-02 and PT-03. The locations were selected based on examination of the accumulated liquids by both the NYSDEC and Inventum on the day of sampling.

Representative water samples were collected at three locations (SW-WAL01, SW-WAL02, and SW-LOS02) using new disposable polypropylene dipper cups affixed to a telescoping rod. One sample (SW-LOA01) was collected using a new disposable 3-foot long polyethylene bailer secured with nylon rope from a sump at the southeast corner of the secondary containment.

Solids Screening and Sampling

After the water samples were collected, representative solids (Marked with "RS") were collected from five (5) locations in the light oil area secondary containment and four (4) locations in the weak ammonia liquor secondary containment (Figure 2). Headspace screening of the solids was conducted with a PID equipped with a 10.6 eV lamp. A summary of the screening results is shown in Table A below:

Table A: Solid Soil Screening Summary

Screening Location	Visual Observations	Headspace Screening (ppm)
Light Oil Secondary Containment Area		
North East Corner	Black sludge, some organic matter	1.2
North East Sump	Black sludge, light oil odor, produced sheen and bright green LNAPL	204
North West Corner	Black sludge, some plant matter	1.4
South West Corner	Some sludge, mostly plant matter	13.8
South East Sump	Some sludge, mostly plant matter	1.3
Weak Ammonia Liquor Secondary Containment		
South West Corner	Mostly gravel, black sandy material	4.2
South Center	Mostly gravel	0.4
South East Corner	Black sandy material	4.5
Northeast Corner	Mostly gravel, black sandy material	1.5

Solid samples for headspace screening were collected using shovels or stainless-steel spoons. The spoons and shovels were decontaminated prior to and after the sampling with an Alconox wash and a distilled water rinse. This decontamination water was discharged to the Town of Tonawanda sewer system in accordance with Riverview's existing permit (Industrial Sewer Connection Permit No. 331).

Representative solids sample from the light oil area (SS-LOA01) was collected using a pre-cleaned and disposable polypropylene dipper cup affixed to a telescoping rod. The representative Solids sample from the Weak Ammonia Liquor area (SS-WAL-01) was collected using a pre-cleaned stainless-steel spoon. The sample locations are shown on Figure 2.

Laboratory Analysis

Water samples for Volatile Organic Compound (VOC) analysis were collected prior to conducting field screening (pH and temperature) with an Oakton pH meter. Samples (water and solid) were delivered under chain-of-custody procedures to Paradigm Environmental Services, Inc of Rochester, New York (ELAP ID# 10958) for the following analyses. Laboratory reporting includes a NYSDEC Category A deliverable (Attachment B) and an EDD.

- Tier 1 - Characterization
    - Toxicity Characteristic Leaching Procedure (TCLP) using EPA Method 1311 for:
        - Semi-Volatile Organic Compounds (SVOCs) using EPA Method 8270D
        - VOCs using EPA Method 8260C
        - Resource Conversation and Recovery Act (RCRA) Metals using EPA Method 6010C
        - Mercury using EPA Method 7470A
        - Pesticides using EPA Method 8081B
        - Herbicides using EPA Method 8151A
    - Polychlorinated Biphenyls (PCBs) using EPA Method 8082A
    - Flash Point using EPA Method 1010A
    - pH using EPA Method 9045D
    - Reactivity, Cyanide using EPA Method 7.3.4.2 reference
    - Reactivity, Sulfide using EPA Method 7.3.4.3 reference
- Tier 2 - Discharge Water Quality
    - Target Compound List (TCL) SVOCs using EPA Method 8270D
    - TCL VOCs using EPA Method 8260C

Data

The laboratory analyses from Paradigm is attached as Attachment B and is summarized in Tables 1, 2 and 3.

The data indicate that the water sampled from the weak ammonia liquor tank secondary containment contains no VOCs in excess of the New York State Class GA Ambient Water Quality Standards or Guidance Values (Table 1). Benzene was detected in the sample collected at SW.WAL01 at an estimated concentration of 0.630 micrograms per liter (µg/L).Fluoranthene (SW.WAL01 and SW.WAL02) and Pyrene (SW.WAL.01) were measured at estimated concentrations below the Class GA standard/guidance

Results from both SW.WAL.01 and SW.WAL.02 show that the water does not exhibit a RCRA characteristic hazardous waste. All TCLP results were non-detect as shown on Tables 1 and 2. No PCBs were detected in either of the samples. .

The data indicates that the water sampled from the light oil secondary containment contains no VOCs in excess of the Class GA standards/guidance (Table 1). Ethylbenzene was detected in the sample collected at SW.LOA01 (3.14 µg/L) as was m,p-Xylene at an estimated concentration of 3.14 µg/L. Acetone was detected in the sample collected at SW.LOA02 at an estimated concentration of 8.06 µg/L.

Several SVOCs were detected in both samples from the light oil secondary containment area (Table 1). Benzo(a)pyrene (11.5 µg/L) and Indeno (1,2,3-cd) pyrene (15.4 µg/L) were detected at concentrations above the Class GA standard/guidance from SW.LOA01. Indeno (1,2,3-cd) pyrene was detected at an estimated concentration of 5.55 µg/L above the Class GA standard/guidance at SW.LOA02. Results from both SW.LOA.01 and SW. LOA.02 show that the water does not exhibit a RCRA characteristic hazardous waste. All TCLP results were non-detect as shown on Tables 1 and 2 with the exception of the sample from SW.LOA02 which contained 2,4-D (0.5 milligrams per liter [mg/L]) and an estimated concentration of Heptachlor (0.858 µg/L). No PCBs were detected in either of the samples.

The data for the solid samples are summarized in Table 3. Ethylbenzene, m,p-xylene, o-xylene, and toluene were detected at concentrations below both the Part 375 Commercial and Industrial Use Soil Cleanup Objectives (SCOs). Benzene was detected at a concentration (146,000 micrograms per kilogram [µg/kg] above the Industrial Use SCO in the sample from the light oil area (SS.LOA01).

As anticipated, several SVOCs were detected in the solid samples from both the weak ammonia liquor and light oil area secondary containment. A similar suite of SVOCs were detected from each area, but the concentrations were consistently higher in the sample from the light oil area. Benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene were detected at concentrations above either the Commercial or Industrial SCOs in the sample (SS.WAL01) from the weak ammonia liquor area. Benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and naphthalene were present in the sample (SS.LOA01) from the light oil area at detectable or estimated concentrations above the Commercial or Industrial SCOs.

Results from both SS.LOA01 and SS.WAL01 show that the solid material does not exhibit a RCRA characteristic hazardous waste. Benzene and Barium were detected in the TCLP analysis, but below the concentrations that are characteristic of a hazardous waste (Table 3).

Recommendations

Based on the data collected, the following recommendations are proposed:

1. The liquids in the weak ammonia liquor secondary containment are sufficiently treated by settling. The water in this area should be pumped to the sewer system leading to the Town of Tonawanda outfall.
2. The liquids in the light oil area contain compounds that are consistent with the former contents of the light oil decanter and tanks and will be managed as K-143 hazardous waste until treated with GAC and discharged to the POTW under Permit No. 331. This water will be pumped

though a carbon vessel at no greater than 10 gallons per minute prior to discharge to the sewer system leading to the Town of Tonawanda outfall.

3. After pumping the free water to the Town of Tonawanda outfall, the solids in the weak ammonia liquor secondary containment should be moved to the west end and allowed to dewater. Following dewatering, the liquids in the east end of the secondary containment should be maintained at a level to reduce contact with the solids.
4. The tanks in the light oil area (PT-04, PT-12, and PT-13) shall be inspected to determine if they contain liquids or sludges.
5. If the tanks in the light oil area are empty, the solids in the secondary containment, including the sumps at the northeast and southeast corners, should be removed, stabilized and disposed offsite. The secondary containment should be cleaned to allow future accumulations of water to be managed in accordance with the SWPPP.
6. If the tanks are full, an IRM to empty the contents will be developed and proposed.

Tables

Table - 1
LOA Water Data
Organic Compounds
Light Oil Area Secondary Containments
Riverview Innovatioon Technology Campus, Inc.
Tonawanda, New York
BCP Site No. 915353

Analytes (a,b,c)	CAS No.	New York State Class GA Ambient Water Quality Standards and Guidance Values or TCLP Regulatory Limits	Sample No. SW.WAL.01.03242020		Sample No. SW.WAL.02.032420		Sample No. SW.LOA.01.032420		Sample No. SW.LOA.02.032420	
General Chemistry										
pH (S.U.)		-	7.67		7.69		7.61		7.26	
TCL VOCs (µg/L)										
Acetone	67-64-1	50	10.0	U	10.0	U	10.0	U	8.06	J
Benzene	71-43-2	1	0.630	J	1.00	U	1.00	U	1.00	U
Ethylbenzene	100-41-4	5	2.00	U	2.00	U	3.14		2.00	U
m,p-Xylene	136777-61-2	5	2.00	U	2.00	U	3.14	J	2.00	U
TCL SVOCs (BNAs) (µg/L)										
Acenaphthylene	208-96-8	NE	10.0	U	10.0	U	20.5		5.82	J
Anthracene	120-12-7	50	10.0	U	10.0	U	13.4		10.0	U
Benzo (a) anthracene	56-55-3	0.002	10.0	U	10.0	U	22.3		5.97	J
Benzo (a) pyrene	50-32-8	ND	10.0	U	10.0	U	11.5		10.0	U
Benzo (b) fluoranthene	205-99-2	0.002	10.0	U	10.0	U	41.8		21.0	
Benzo (g,h,i) perylene	191-24-2	NE	10.0	U	10.0	U	12.1		10.0	U
Benzo (k) fluoranthene	207-08-9	0.002	10.0	U	10.0	U	21.8		10.6	
Carbazole	86-74-8	NE	10.0	U	10.0	U	7.22	J	10.0	U
Chrysene	218-01-9	0.002	10.0	U	10.0	U	37.2		28.8	
Dibenzofuran	132-64-9	NE	10.0	U	10.0	U	9.08	J	10.0	U
Fluoranthene	206-44-0	50	9.69	J	5.89	J	48.2		47.3	
Fluorene	86-73-7	50	10.0	U	10.0	U	19.9		10.0	U
Indeno (1,2,3-cd) pyrene	193-39-5	0.002	10.0	U	10.0	U	15.4		5.55	J
Phenanthrene	85-01-8	50	10.0	U	10.0	U	34.8		20.6	
Pyrene	129-00-0	50	5.46	J	10.0	U	44.2		26.8	
TCLP Pesticides (µg/L)										
Heptachlor	76-44-8	8	1.00	U	1.00	U	1.00	U	0.858	J
TCLP Herbicides (mg/L)										
2,4-D	94-75-7	10	0.50	U	0.50	U	0.50	U	0.5	
Waste Characterization General Chemistry										
Flash Point (Celsius)		-	>70		>70		>70		>70	
Reactivity, Cyanide (mg/L)	57-12-5	-	100	U	100	U	100	U	100	U
Reactivity, Sulfide (mg/L)	18496-25-8	-	100	U	100	U	100	U	100	U

a/ Only analytes with at least one detection (or estimated detection) or shown. Detections shown in bold. Yellow highlighted cells exceed standard or guidance value shown.
b/ Results with "J" qualifer indicate estimated concentration above the method detection limit, but below the reporting limit.
"U" = analyte not detected above reporting limit shown.
c/All samples were non-detect for TCLP SVOCs, TCLP VOCs, and Polychlorinated Biphenyls (PCBs)
TCL = Target Compound List; TCLP = Toxicity Characteristic Leaching Procedure
ug/L = micrograms per liter; mg/L = milligrams per liter

Table - 2
Water Sampling Data
Metal Compounds
Light Oil Area Secondary Containments
Riverview Innovation Technology Campus, Inc.
Tonawanda, New York
BCP Site No. 915353

Analytes (a,b)	CAS Number	TCLP Regulatory Limits	Sample No. SW.WAL.01.0324 2020		Sample No. SW.WAL.02.0324 2020		Sample No. SW.LOA.01.0324 2020		Sample No. SW.LOA.02.0324 2020	
TCLP Metals (mg/L)										
Arsenic	7440-38-2	5	0.500	U	0.500	U	0.500	U	0.500	U
Barium	7440-39-3	100	0.500	U	0.500	U	0.500	U	0.500	U
Cadmium	7440-43-9	1	0.0250	U	0.0250	U	0.0250	U	0.0250	U
Chromium	7440-47-3	5	0.500	U	0.500	U	0.500	U	0.500	U
Lead	7439-92-1	5	0.500	U	0.500	U	0.500	U	0.500	U
Mercury	7439-97-6	0.2	0.00200	U	0.00200	U	0.00200	U	0.00200	U
Selenium	7782-49-2	1	0.200	U	0.200	U	0.200	U	0.200	U
Silver	7440-22-4	5	0.500	U	0.500	U	0.500	U	0.500	U

a/All metals analysis shown. No results were detected above reporting limits shown.

b/ "U" = analyte not detected above reporting limit shown.

TCLP = Toxicity Characteristic Leaching Procedure
mg/L = milligrams per liter

Table 3
Sediment/Solids Sampling
Light Oil Area Secondary Containments
Riverview Innovation Technology Campus, Inc.
Tonawanda, New York
BCP Site No. 915353

Analytes	CAS No.	NYSDEC Part 375 Commercial SCOs	NYSDEC Part 375 Industrial SCOs	Sample No. SS.WAL.01.03242020		Sample No. SS.LOA.01.03242020	
General Chemistry							
pH (S.U)				8.01		7.15	
TCL VOCs (µg/kg)							
Benzene	71-43-2	44,000	89,000	2110		146000	
Ethylbenzene	100-41-4	390,000	780,000	2820		82900	
m,p-Xylene	136777-61-2	500,000	1,000,000	7630		69600	
o-Xylene	95-47-6	500,000	1,000,000	2650		18800	
Toluene	108-88-3	500,000	1,000,000	1520		75200	
TCL SVOCs (BNAs) (µg/kg)							
2-Methylnapthalene	91-57-6	-	-	3840	U	79600	
Acenaphthene	83-32-9	500,000	1,000,000	3840	U	39700	J
Acenaphthylene	208-96-8	500,000	1,000,000	13300		59600	
Anthracene	120-12-7	500,000	1,000,000	6000		56300	
Benzo (a) anthracene	56-55-3	5,600	11,000	23200		93300	
Benzo (a) pyrene	50-32-8	1,000	1,100	38700		42400	J
Benzo (b) fluoranthene	205-99-2	5,600	11,000	54900		90000	
Benzo (g,h,i) perylene	191-24-2	500,000	1,000,000	33600		32800	J
Benzo (k) fluoranthene	207-08-9	56,000	110,000	25900		64500	
Carbazole	86-74-8	NE	NE	5340		48400	U
Chrysene	218-01-9	56,000	110,000	30800		136000	
Dibenz (a,h) anthracene	53-70-3	560	1,100	8920		48400	U
Dibenzofuran	132-64-9	NE	NE	3840	U	51000	
Fluoranthene	206-44-0	500,000	1,000,000	36600		233000	
Fluorene	86-73-7	500,000	1,000,000	2820	J	90600	
Indeno (1,2,3-cd) pyrene	193-39-5	5,600	11,000	34600		48400	U
Naphthalene	91-20-3	500,000	1,000,000	14100		631000	
Phenanthrene	85-01-8	500,000	1,000,000	14000		225000	
Pyrene	129-00-0	500,000	1,000,000	34500		177000	

Table 3
Sediment/Solids Sampling
Light Oil Area Secondary Containments
Riverview Innovation Technology Campus, Inc.
Tonawanda, New York
BCP Site No. 915353

Analytes	CAS No.	NYSDEC Part 375 Commercial SCOs	NYSDEC Part 375 Industrial SCOs	Sample No. SS.WAL.01.03242020		Sample No. SS.LOA.01.03242020	
Waste Characterization General Chemistry							
Flash Point, Celsius	Flashpt	-	-	>70		>70	
Reactivity, Cyanide (mg/Kg)	57-12-5	-	-	100	U	100	U
Reactivity, Sulfide (mg/Kg)	18496-25-8	-	-	100	U	880	
Paint Filter Test (Pass/Fail)	PF	-	-	Pass		Fail	
TCLP VOCs (ug/L) (c)							
Benzene	71-43-2	500		20.0	U	380	
TCLP Metals (mg/L) (c)							
Barium	7440-39-3	100		0.681		0.456	J

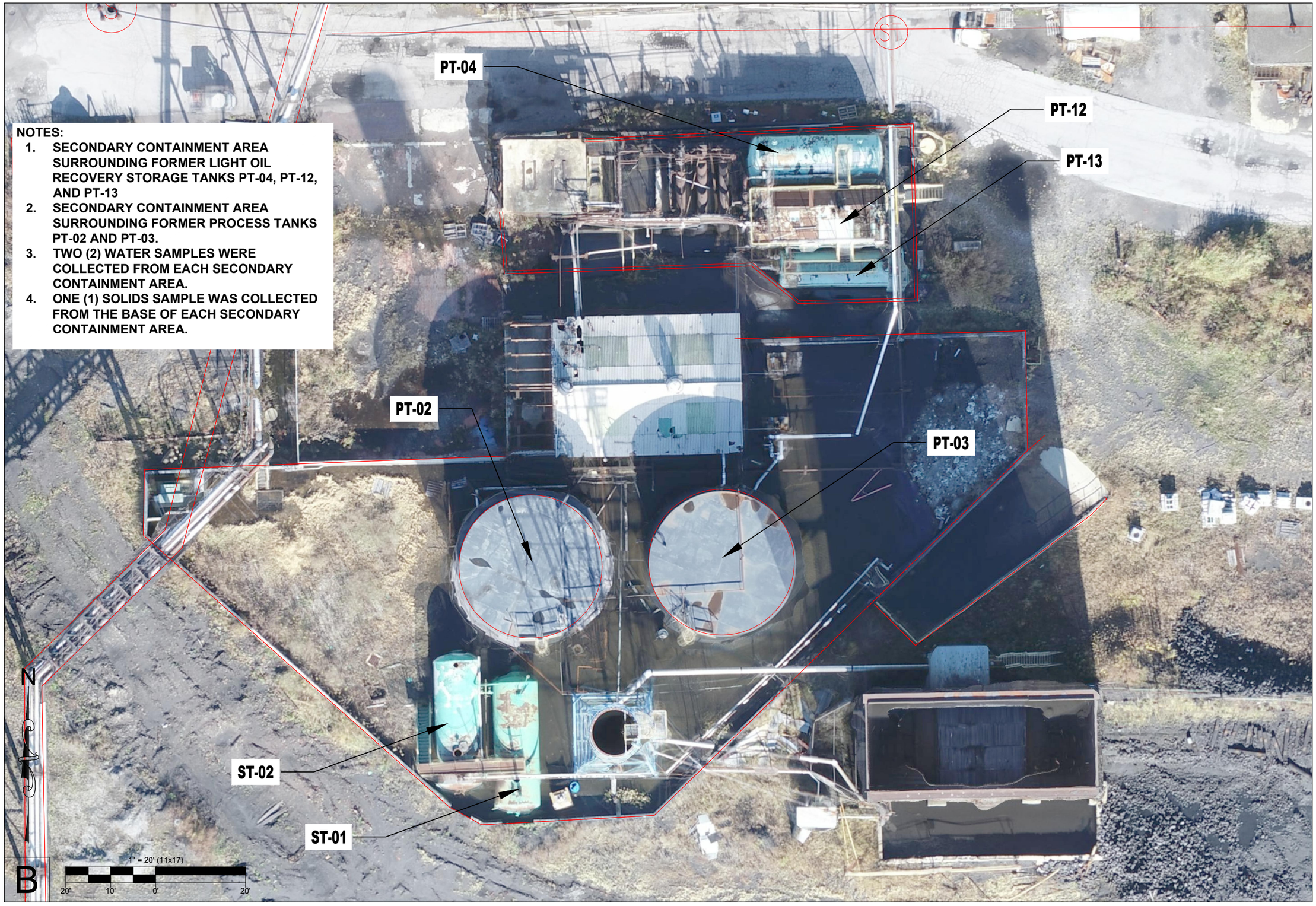
a/ Only analytes with at least one detection (or estimated detection) or shown. Detections shown in bold. Highlighted cells exceed the Commercial SCO (yellow), Industrial SCO (red) and include non-detect samples with elevated reporting limits above the standard.

b/ Results with "J" qualifer indicate estimated concentration above the method detection limit, but below the reporting limit."U" = analyte not detected above reporting limit shown. "L" = laboratory control sample recovery outside accepted QC limits.

c/All samples were non-detect for TCLP SVOCs, TCLP Pesticides, TCLP Herbicides, and Polychlorinated Biphenyls (PCBs)

TCL = Target Compound List; TCLP = Toxicity Characteristic Leaching Procedure
ug/L = micrograms per liter; mg/L = milligrams per liter

Figures



NOTES:

1. SECONDARY CONTAINMENT AREA SURROUNDING FORMER LIGHT OIL RECOVERY STORAGE TANKS PT-04, PT-12, AND PT-13
2. SECONDARY CONTAINMENT AREA SURROUNDING FORMER PROCESS TANKS PT-02 AND PT-03.
3. TWO (2) WATER SAMPLES WERE COLLECTED FROM EACH SECONDARY CONTAINMENT AREA.
4. ONE (1) SOLIDS SAMPLE WAS COLLECTED FROM THE BASE OF EACH SECONDARY CONTAINMENT AREA.

DRAWING BY
CHECKED
APPROVED

PROPERTY OF INVENTUM ENGINEERING

IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND MUST BE RETURNED ON DEMAND. THE INFORMATION CONTAINED HEREIN IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY PART THEREOF, OR FURNISH TO OTHERS FOR ANY PURPOSE WHATSOEVER EXCEPT TO EMPLOYEES, SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF INVENTUM ENGINEERING

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. TO ALTER THIS DOCUMENT IN ANY WAY.

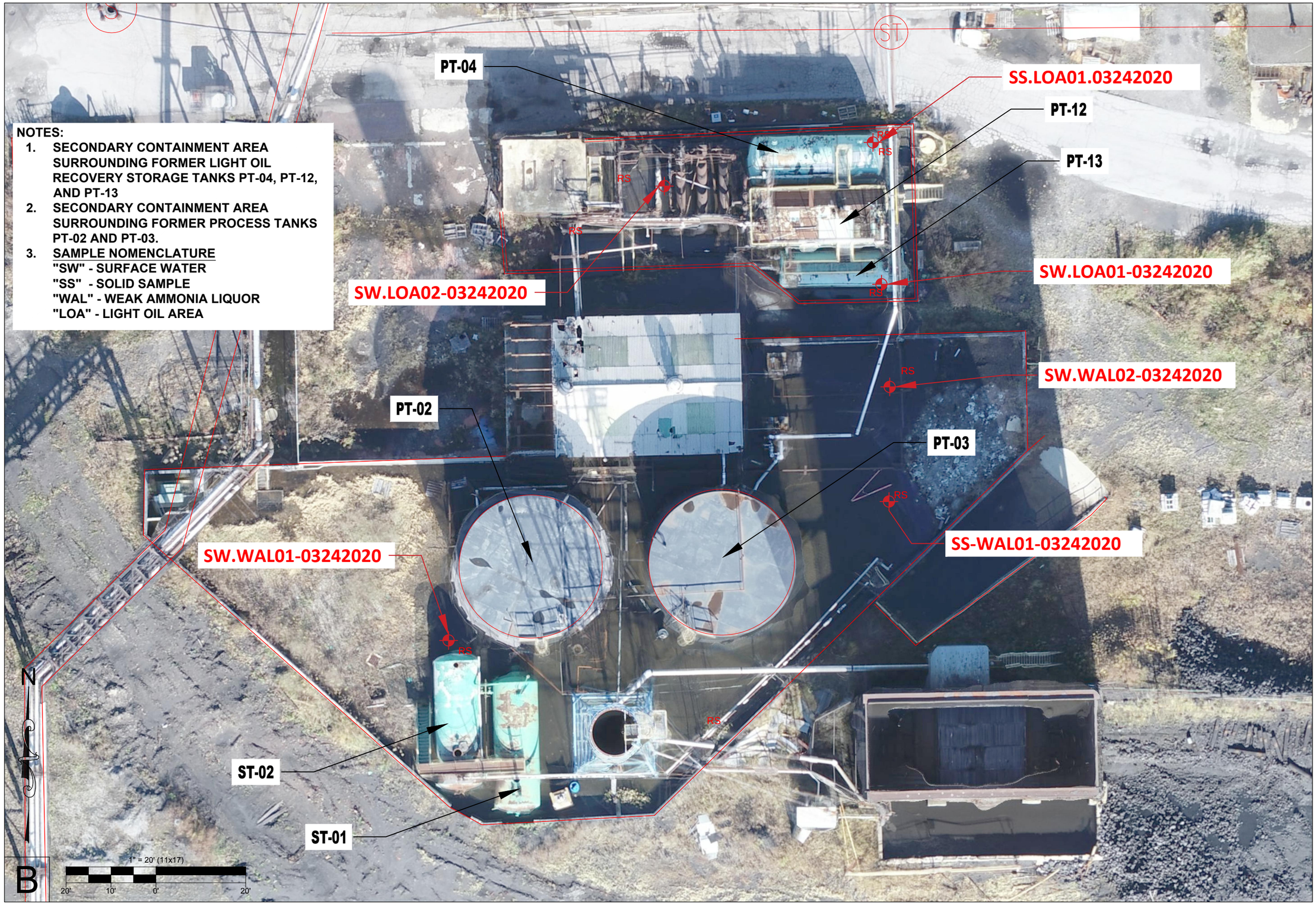
RIVERVIEW
INNOVATION &
TECHNOLOGY
CAMPUS, INC.
3875 RIVER ROAD
TONAWANDA, NEW
YORK 14150

FIGURE 1
LIGHT OIL PROCESS TANKS
SECONDARY CONTAINMENT AREA
WASTE CHARACTERIZATION

INVENTUM ENGINEERING
481 CARLISLE DRIVE
SUITE 202
HERNDON, VIRGINIA 20170
(703) 722-6049
www.InventumEng.com

FIGURE 1

DRAWING NUMBER



DRAWING BY
CHECKED
APPROVED

PROPERTY OF INVENTUM ENGINEERING

IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND MUST BE RETURNED ON DEMAND. ALL INFORMATION CONTAINED HEREIN IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN THOSE FOR WHOM IT WAS FURNISHED, INCLUDING SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF INVENTUM ENGINEERING

NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

RIVERVIEW INNOVATION & TECHNOLOGY CAMPUS, INC.
3875 RIVER ROAD
TONAWANDA, NEW YORK 14150

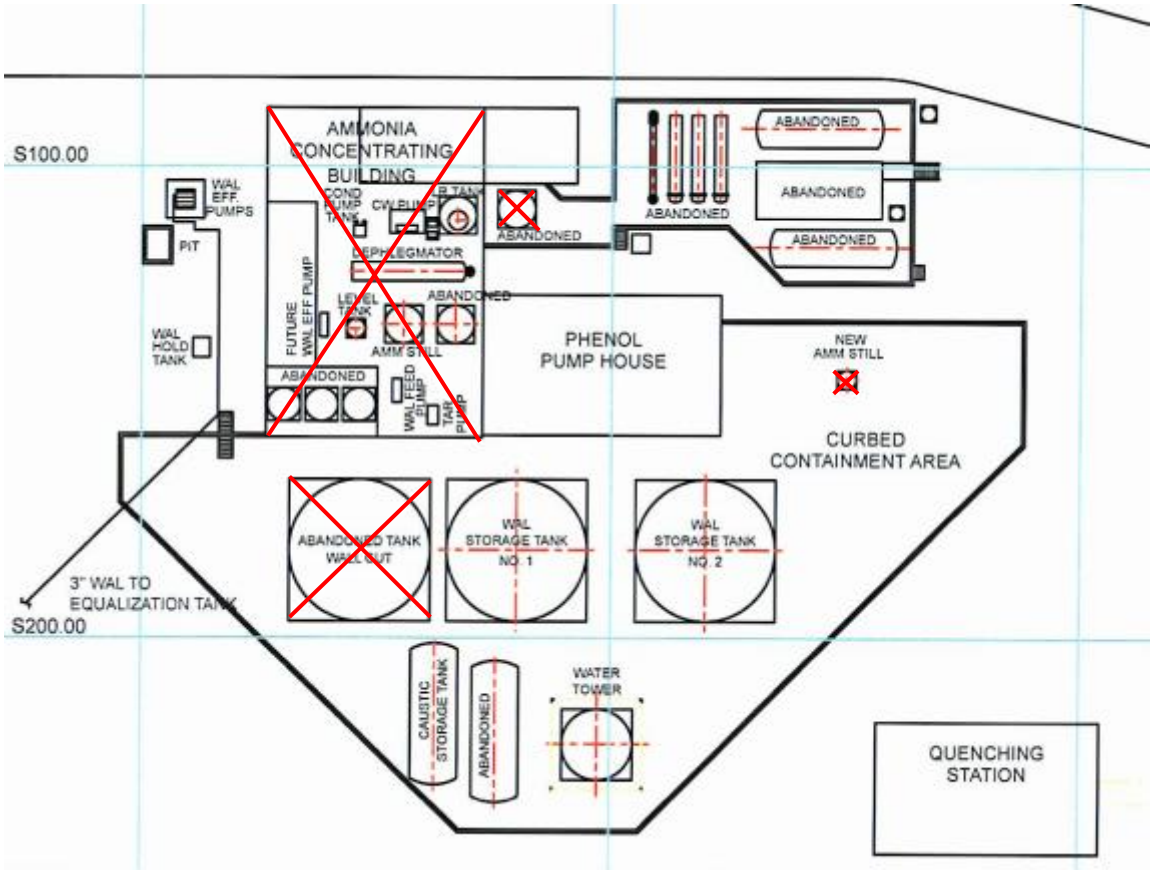
FIGURE 2
LIGHT OIL PROCESS TANKS
SECONDARY CONTAINMENT AREA
WASTE CHARACTERIZATION
SAMPLE LOCATIONS

INVENTUM ENGINEERING
481 CARLISLE DRIVE
SUITE 202
HERNDON, VIRGINIA 20170
(703) 722-6049
www.InventumEng.com

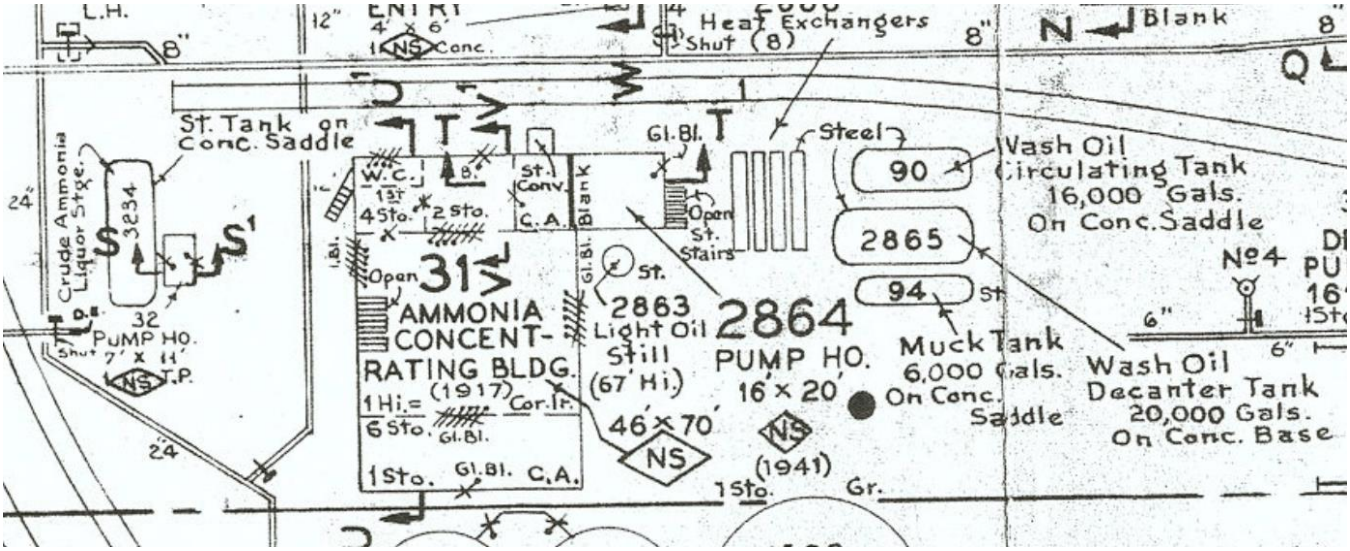
FIGURE 2

DRAWING NUMBER

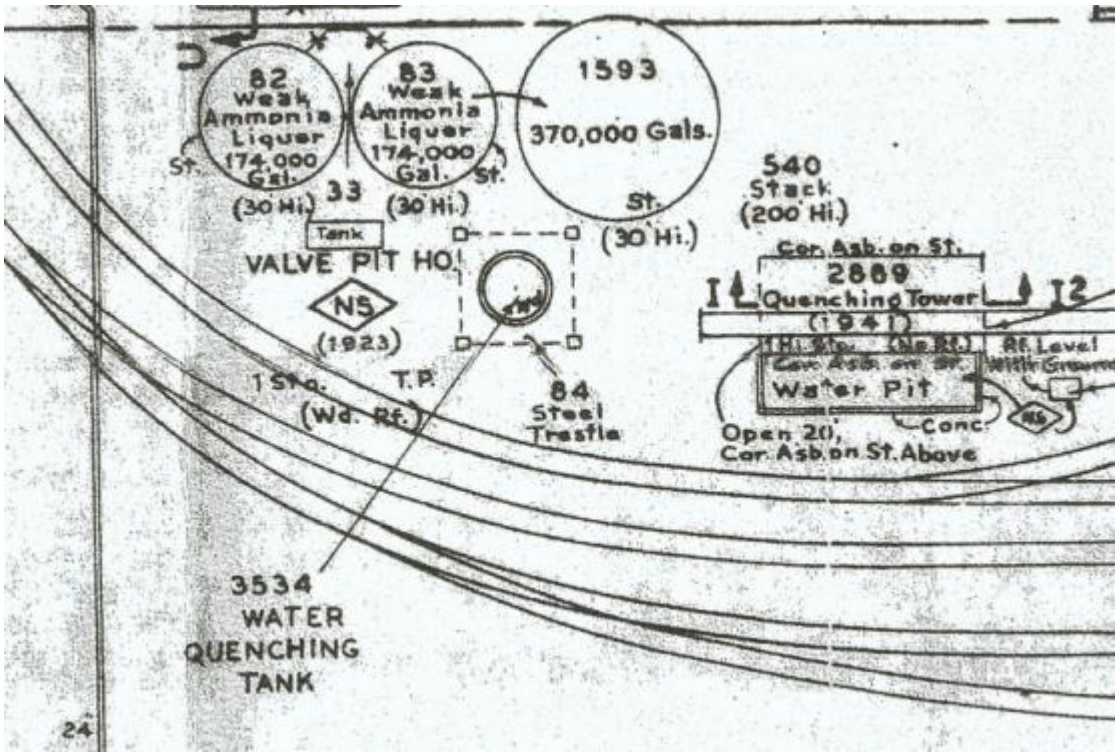
Attachment A



Source
General Plot Plan
Ammonia Concentrating and Light Oil Areas
T-BP-0250
30 Dec 2010
Notes:
(1) The Buildings and equipment highlighted with the red Xs were previously removed.
(2) The Ammonia Concentrating Building was previously demolished. With the removal of the Building the west end of the Light Oil Containment Area has been replaced with a berm of debris.



Source
T-R-70-F
n.d. (circa 1982)



Source
T-R-72-F
n.d.(circa 1982)

Attachment B

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.01.03242020		
Lab Sample ID:	201337-01	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/30/2020

Method Reference(s): EPA 1010A

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 1.02	ug/L		3/30/2020 11:34
PCB-1221	< 1.02	ug/L		3/30/2020 11:34
PCB-1232	< 1.02	ug/L		3/30/2020 11:34
PCB-1242	< 1.02	ug/L		3/30/2020 11:34
PCB-1248	< 1.02	ug/L		3/30/2020 11:34
PCB-1254	< 1.02	ug/L		3/30/2020 11:34
PCB-1260	< 1.02	ug/L		3/30/2020 11:34
PCB-1262	< 1.02	ug/L		3/30/2020 11:34
PCB-1268	< 1.02	ug/L		3/30/2020 11:34

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**70.0**	29.6 - 91.8		3/30/2020 11:34

Method Reference(s): EPA 8082A
EPA 3510C
Preparation Date: 3/30/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 10.0	ug/L		3/30/2020 16:49
1,2,4,5-Tetrachlorobenzene	< 10.0	ug/L		3/30/2020 16:49
1,2,4-Trichlorobenzene	< 10.0	ug/L		3/30/2020 16:49
1,2-Dichlorobenzene	< 10.0	ug/L		3/30/2020 16:49
1,3-Dichlorobenzene	< 10.0	ug/L		3/30/2020 16:49
1,4-Dichlorobenzene	< 10.0	ug/L		3/30/2020 16:49
2,2-Oxybis (1-chloropropane)	< 10.0	ug/L		3/30/2020 16:49
2,3,4,6-Tetrachlorophenol	< 10.0	ug/L	DL	3/30/2020 16:49
2,4,5-Trichlorophenol	< 20.0	ug/L		3/30/2020 16:49
2,4,6-Trichlorophenol	< 10.0	ug/L	DL	3/30/2020 16:49
2,4-Dichlorophenol	< 10.0	ug/L		3/30/2020 16:49
2,4-Dimethylphenol	< 20.0	ug/L		3/30/2020 16:49
2,4-Dinitrophenol	< 20.0	ug/L		3/30/2020 16:49
2,4-Dinitrotoluene	< 10.0	ug/L		3/30/2020 16:49
2,6-Dinitrotoluene	< 10.0	ug/L		3/30/2020 16:49
2-Chloronaphthalene	< 10.0	ug/L		3/30/2020 16:49
2-Chlorophenol	< 10.0	ug/L		3/30/2020 16:49
2-Methylnapthalene	< 10.0	ug/L		3/30/2020 16:49
2-Methylphenol	< 10.0	ug/L		3/30/2020 16:49
2-Nitroaniline	< 20.0	ug/L		3/30/2020 16:49
2-Nitrophenol	< 10.0	ug/L		3/30/2020 16:49
3&4-Methylphenol	< 10.0	ug/L		3/30/2020 16:49
3,3'-Dichlorobenzidine	< 10.0	ug/L		3/30/2020 16:49

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

3-Nitroaniline	< 20.0	ug/L	3/30/2020	16:49
4,6-Dinitro-2-methylphenol	< 20.0	ug/L	3/30/2020	16:49
4-Bromophenyl phenyl ether	< 10.0	ug/L	3/30/2020	16:49
4-Chloro-3-methylphenol	< 10.0	ug/L	3/30/2020	16:49
4-Chloroaniline	< 10.0	ug/L	3/30/2020	16:49
4-Chlorophenyl phenyl ether	< 10.0	ug/L	3/30/2020	16:49
4-Nitroaniline	< 20.0	ug/L	3/30/2020	16:49
4-Nitrophenol	< 20.0	ug/L	3/30/2020	16:49
Acenaphthene	< 10.0	ug/L	3/30/2020	16:49
Acenaphthylene	< 10.0	ug/L	3/30/2020	16:49
Acetophenone	< 10.0	ug/L	3/30/2020	16:49
Anthracene	< 10.0	ug/L	3/30/2020	16:49
Atrazine	< 10.0	ug/L	3/30/2020	16:49
Benzaldehyde	< 10.0	ug/L	3/30/2020	16:49
Benzo (a) anthracene	< 10.0	ug/L	3/30/2020	16:49
Benzo (a) pyrene	< 10.0	ug/L	3/30/2020	16:49
Benzo (b) fluoranthene	< 10.0	ug/L	3/30/2020	16:49
Benzo (g,h,i) perylene	< 10.0	ug/L	3/30/2020	16:49
Benzo (k) fluoranthene	< 10.0	ug/L	3/30/2020	16:49
Bis (2-chloroethoxy) methane	< 10.0	ug/L	3/30/2020	16:49
Bis (2-chloroethyl) ether	< 10.0	ug/L	3/30/2020	16:49
Bis (2-ethylhexyl) phthalate	< 10.0	ug/L	3/30/2020	16:49
Butylbenzylphthalate	< 10.0	ug/L	3/30/2020	16:49
Caprolactam	< 10.0	ug/L	3/30/2020	16:49
Carbazole	< 10.0	ug/L	3/30/2020	16:49

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Chrysene	< 10.0	ug/L		3/30/2020	16:49
Dibenz (a,h) anthracene	< 10.0	ug/L		3/30/2020	16:49
Dibenzofuran	< 10.0	ug/L		3/30/2020	16:49
Diethyl phthalate	< 10.0	ug/L		3/30/2020	16:49
Dimethyl phthalate	< 20.0	ug/L		3/30/2020	16:49
Di-n-butyl phthalate	< 10.0	ug/L		3/30/2020	16:49
Di-n-octylphthalate	< 10.0	ug/L		3/30/2020	16:49
Fluoranthene	**9.69**	ug/L	J	3/30/2020	16:49
Fluorene	< 10.0	ug/L		3/30/2020	16:49
Hexachlorobenzene	< 10.0	ug/L		3/30/2020	16:49
Hexachlorobutadiene	< 10.0	ug/L		3/30/2020	16:49
Hexachlorocyclopentadiene	< 10.0	ug/L		3/30/2020	16:49
Hexachloroethane	< 10.0	ug/L		3/30/2020	16:49
Indeno (1,2,3-cd) pyrene	< 10.0	ug/L		3/30/2020	16:49
Isophorone	< 10.0	ug/L		3/30/2020	16:49
Naphthalene	< 10.0	ug/L		3/30/2020	16:49
Nitrobenzene	< 10.0	ug/L		3/30/2020	16:49
N-Nitroso-di-n-propylamine	< 10.0	ug/L		3/30/2020	16:49
N-Nitrosodiphenylamine	< 10.0	ug/L		3/30/2020	16:49
Pentachlorophenol	< 20.0	ug/L		3/30/2020	16:49
Phenanthrene	< 10.0	ug/L		3/30/2020	16:49
Phenol	< 10.0	ug/L		3/30/2020	16:49
Pyrene	**5.46**	ug/L	J	3/30/2020	16:49

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020

Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020

Matrix: Water **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	**87.2**	61.4 - 115		3/30/2020	16:49
2-Fluorobiphenyl	**69.4**	38.4 - 101		3/30/2020	16:49
2-Fluorophenol	**41.8**	12.7 - 105		3/30/2020	16:49
Nitrobenzene-d5	**79.8**	57.3 - 100		3/30/2020	16:49
Phenol-d5	**30.8**	10 - 107		3/30/2020	16:49
Terphenyl-d14	**88.7**	58.1 - 117		3/30/2020	16:49

Method Reference(s): EPA 8270D
EPA 3510C
Preparation Date: 3/30/2020
Data File: B45439.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		4/3/2020 19:06
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		4/3/2020 19:06
1,1,2-Trichloroethane	< 2.00	ug/L		4/3/2020 19:06
1,1-Dichloroethane	< 2.00	ug/L		4/3/2020 19:06
1,1-Dichloroethene	< 2.00	ug/L		4/3/2020 19:06
1,2,3-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:06
1,2,4-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:06
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		4/3/2020 19:06
1,2-Dibromoethane	< 2.00	ug/L		4/3/2020 19:06
1,2-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:06
1,2-Dichloroethane	< 2.00	ug/L		4/3/2020 19:06
1,2-Dichloropropane	< 2.00	ug/L		4/3/2020 19:06
1,3-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:06
1,4-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:06
1,4-Dioxane	< 20.0	ug/L		4/3/2020 19:06
2-Butanone	< 10.0	ug/L		4/3/2020 19:06
2-Hexanone	< 5.00	ug/L		4/3/2020 19:06
4-Methyl-2-pentanone	< 5.00	ug/L		4/3/2020 19:06
Acetone	< 10.0	ug/L		4/3/2020 19:06
Benzene	**0.630**	ug/L	J	4/3/2020 19:06
Bromochloromethane	< 5.00	ug/L		4/3/2020 19:06
Bromodichloromethane	< 2.00	ug/L		4/3/2020 19:06
Bromoform	< 5.00	ug/L		4/3/2020 19:06

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Bromomethane	< 2.00	ug/L	4/3/2020	19:06
Carbon disulfide	< 2.00	ug/L	4/3/2020	19:06
Carbon Tetrachloride	< 2.00	ug/L	4/3/2020	19:06
Chlorobenzene	< 2.00	ug/L	4/3/2020	19:06
Chloroethane	< 2.00	ug/L	4/3/2020	19:06
Chloroform	< 2.00	ug/L	4/3/2020	19:06
Chloromethane	< 2.00	ug/L	4/3/2020	19:06
cis-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	19:06
cis-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	19:06
Cyclohexane	< 10.0	ug/L	4/3/2020	19:06
Dibromochloromethane	< 2.00	ug/L	4/3/2020	19:06
Dichlorodifluoromethane	< 2.00	ug/L	4/3/2020	19:06
Ethylbenzene	< 2.00	ug/L	4/3/2020	19:06
Freon 113	< 2.00	ug/L	4/3/2020	19:06
Isopropylbenzene	< 2.00	ug/L	4/3/2020	19:06
m,p-Xylene	< 2.00	ug/L	4/3/2020	19:06
Methyl acetate	< 2.00	ug/L	4/3/2020	19:06
Methyl tert-butyl Ether	< 2.00	ug/L	4/3/2020	19:06
Methylcyclohexane	< 2.00	ug/L	4/3/2020	19:06
Methylene chloride	< 5.00	ug/L	4/3/2020	19:06
o-Xylene	< 2.00	ug/L	4/3/2020	19:06
Styrene	< 5.00	ug/L	4/3/2020	19:06
Tetrachloroethene	< 2.00	ug/L	4/3/2020	19:06
Toluene	< 2.00	ug/L	4/3/2020	19:06
trans-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	19:06

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	19:06
Trichloroethene	< 2.00	ug/L	4/3/2020	19:06
Trichlorofluoromethane	< 2.00	ug/L	4/3/2020	19:06
Vinyl chloride	< 2.00	ug/L	4/3/2020	19:06

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**115**	80.8 - 132		4/3/2020	19:06
4-Bromofluorobenzene	**99.2**	56.6 - 130		4/3/2020	19:06
Pentafluorobenzene	**102**	87.4 - 113		4/3/2020	19:06
Toluene-D8	**97.3**	82.2 - 115		4/3/2020	19:06

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x69426.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.01.03242020		
Lab Sample ID:	201337-01	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	7.67 @ 15.0 C	S.U.		3/26/2020 11:32

Method Reference(s): SM22 4500 H+ B

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 16:31
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 16:31
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 16:31
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 16:31
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 16:31
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 16:31
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 16:31
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 16:31
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 16:31
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 16:31
Pyridine	< 40.0	ug/L	5000		3/29/2020 16:31

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**85.4**	61.4 - 115		3/29/2020 16:31
2-Fluorobiphenyl	**77.3**	38.4 - 101		3/29/2020 16:31
2-Fluorophenol	**69.0**	12.7 - 105		3/29/2020 16:31
Nitrobenzene-d5	**86.8**	57.3 - 100		3/29/2020 16:31
Phenol-d5	**65.8**	10 - 107		3/29/2020 16:31
Terphenyl-d14	**86.3**	58.1 - 117		3/29/2020 16:31

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45422.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.01.03242020		
Lab Sample ID:	201337-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:52

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.01.03242020		
Lab Sample ID:	201337-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 13:14
Endrin	< 1.00	ug/L	20		3/30/2020 13:14
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 13:14
Heptachlor	< 1.00	ug/L	8		3/30/2020 13:14
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 13:14
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 13:14
Toxaphene	< 20.0	ug/L	500		3/30/2020 13:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**116**	14.8 - 154		3/30/2020 13:14
Tetrachloro-m-xylene (1)	**88.1**	32.7 - 101		3/30/2020 13:14

Method Reference(s): EPA 8081B
EPA 1311 / 3510C

Preparation Date: 3/28/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.01.03242020		
Lab Sample ID:	201337-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:35
Barium	< 0.500	mg/L	100		3/30/2020 18:35
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:35
Chromium	< 0.500	mg/L	5		3/30/2020 18:35
Lead	< 0.500	mg/L	5		3/30/2020 18:35
Selenium	< 0.200	mg/L	1		3/30/2020 18:35
Silver	< 0.500	mg/L	5		3/30/2020 18:35

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.01.03242020
Lab Sample ID: 201337-01A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 16:29
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 16:29
2-Butanone	< 100	ug/L	200000		4/3/2020 16:29
Benzene	< 20.0	ug/L	500		4/3/2020 16:29
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 16:29
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 16:29
Chloroform	< 20.0	ug/L	6000		4/3/2020 16:29
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 16:29
Trichloroethene	< 20.0	ug/L	500		4/3/2020 16:29
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 16:29

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**108**	80.8 - 132		4/3/2020 16:29
4-Bromofluorobenzene	**99.5**	56.6 - 130		4/3/2020 16:29
Pentafluorobenzene	**102**	87.4 - 113		4/3/2020 16:29
Toluene-D8	**97.2**	82.2 - 115		4/3/2020 16:29

Method Reference(s): EPA 8260C
EPA 1311 / 5030C
Data File: x69419.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/30/2020

Method Reference(s): EPA 1010A

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 1.00	ug/L		3/30/2020 13:57
PCB-1221	< 1.00	ug/L		3/30/2020 13:57
PCB-1232	< 1.00	ug/L		3/30/2020 13:57
PCB-1242	< 1.00	ug/L		3/30/2020 13:57
PCB-1248	< 1.00	ug/L		3/30/2020 13:57
PCB-1254	< 1.00	ug/L		3/30/2020 13:57
PCB-1260	< 1.00	ug/L		3/30/2020 13:57
PCB-1262	< 1.00	ug/L		3/30/2020 13:57
PCB-1268	< 1.00	ug/L		3/30/2020 13:57

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**54.0**	29.6 - 91.8		3/30/2020 13:57

Method Reference(s): EPA 8082A
EPA 3510C
Preparation Date: 3/30/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 10.0	ug/L		3/30/2020 17:18
1,2,4,5-Tetrachlorobenzene	< 10.0	ug/L		3/30/2020 17:18
1,2,4-Trichlorobenzene	< 10.0	ug/L		3/30/2020 17:18
1,2-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:18
1,3-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:18
1,4-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:18
2,2-Oxybis (1-chloropropane)	< 10.0	ug/L		3/30/2020 17:18
2,3,4,6-Tetrachlorophenol	< 10.0	ug/L	DL	3/30/2020 17:18
2,4,5-Trichlorophenol	< 20.0	ug/L		3/30/2020 17:18
2,4,6-Trichlorophenol	< 10.0	ug/L	DL	3/30/2020 17:18
2,4-Dichlorophenol	< 10.0	ug/L		3/30/2020 17:18
2,4-Dimethylphenol	< 20.0	ug/L		3/30/2020 17:18
2,4-Dinitrophenol	< 20.0	ug/L		3/30/2020 17:18
2,4-Dinitrotoluene	< 10.0	ug/L		3/30/2020 17:18
2,6-Dinitrotoluene	< 10.0	ug/L		3/30/2020 17:18
2-Chloronaphthalene	< 10.0	ug/L		3/30/2020 17:18
2-Chlorophenol	< 10.0	ug/L		3/30/2020 17:18
2-Methylnapthalene	< 10.0	ug/L		3/30/2020 17:18
2-Methylphenol	< 10.0	ug/L		3/30/2020 17:18
2-Nitroaniline	< 20.0	ug/L		3/30/2020 17:18
2-Nitrophenol	< 10.0	ug/L		3/30/2020 17:18
3&4-Methylphenol	< 10.0	ug/L		3/30/2020 17:18
3,3'-Dichlorobenzidine	< 10.0	ug/L		3/30/2020 17:18

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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

3-Nitroaniline	< 20.0	ug/L		3/30/2020	17:18
4,6-Dinitro-2-methylphenol	< 20.0	ug/L		3/30/2020	17:18
4-Bromophenyl phenyl ether	< 10.0	ug/L		3/30/2020	17:18
4-Chloro-3-methylphenol	< 10.0	ug/L		3/30/2020	17:18
4-Chloroaniline	< 10.0	ug/L		3/30/2020	17:18
4-Chlorophenyl phenyl ether	< 10.0	ug/L		3/30/2020	17:18
4-Nitroaniline	< 20.0	ug/L		3/30/2020	17:18
4-Nitrophenol	< 20.0	ug/L		3/30/2020	17:18
Acenaphthene	< 10.0	ug/L		3/30/2020	17:18
Acenaphthylene	**20.5**	ug/L		3/30/2020	17:18
Acetophenone	< 10.0	ug/L		3/30/2020	17:18
Anthracene	**13.4**	ug/L		3/30/2020	17:18
Atrazine	< 10.0	ug/L		3/30/2020	17:18
Benzaldehyde	< 10.0	ug/L		3/30/2020	17:18
Benzo (a) anthracene	**22.3**	ug/L		3/30/2020	17:18
Benzo (a) pyrene	**11.5**	ug/L		3/30/2020	17:18
Benzo (b) fluoranthene	**41.8**	ug/L		3/30/2020	17:18
Benzo (g,h,i) perylene	**12.1**	ug/L		3/30/2020	17:18
Benzo (k) fluoranthene	**21.8**	ug/L		3/30/2020	17:18
Bis (2-chloroethoxy) methane	< 10.0	ug/L		3/30/2020	17:18
Bis (2-chloroethyl) ether	< 10.0	ug/L		3/30/2020	17:18
Bis (2-ethylhexyl) phthalate	< 10.0	ug/L		3/30/2020	17:18
Butylbenzylphthalate	< 10.0	ug/L		3/30/2020	17:18
Caprolactam	< 10.0	ug/L		3/30/2020	17:18
Carbazole	**7.22**	ug/L	J	3/30/2020	17:18

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Chrysene	**37.2**	ug/L		3/30/2020	17:18
Dibenz (a,h) anthracene	< 10.0	ug/L		3/30/2020	17:18
Dibenzofuran	**9.08**	ug/L	J	3/30/2020	17:18
Diethyl phthalate	< 10.0	ug/L		3/30/2020	17:18
Dimethyl phthalate	< 20.0	ug/L		3/30/2020	17:18
Di-n-butyl phthalate	< 10.0	ug/L		3/30/2020	17:18
Di-n-octylphthalate	< 10.0	ug/L		3/30/2020	17:18
Fluoranthene	**48.2**	ug/L		3/30/2020	17:18
Fluorene	**19.9**	ug/L		3/30/2020	17:18
Hexachlorobenzene	< 10.0	ug/L		3/30/2020	17:18
Hexachlorobutadiene	< 10.0	ug/L		3/30/2020	17:18
Hexachlorocyclopentadiene	< 10.0	ug/L		3/30/2020	17:18
Hexachloroethane	< 10.0	ug/L		3/30/2020	17:18
Indeno (1,2,3-cd) pyrene	**15.4**	ug/L		3/30/2020	17:18
Isophorone	< 10.0	ug/L		3/30/2020	17:18
Naphthalene	< 10.0	ug/L		3/30/2020	17:18
Nitrobenzene	< 10.0	ug/L		3/30/2020	17:18
N-Nitroso-di-n-propylamine	< 10.0	ug/L		3/30/2020	17:18
N-Nitrosodiphenylamine	< 10.0	ug/L		3/30/2020	17:18
Pentachlorophenol	< 20.0	ug/L		3/30/2020	17:18
Phenanthrene	**34.8**	ug/L		3/30/2020	17:18
Phenol	< 10.0	ug/L		3/30/2020	17:18
Pyrene	**44.2**	ug/L		3/30/2020	17:18

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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020

Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020

Matrix: Water **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	**82.0**	61.4 - 115		3/30/2020	17:18
2-Fluorobiphenyl	**68.0**	38.4 - 101		3/30/2020	17:18
2-Fluorophenol	**38.0**	12.7 - 105		3/30/2020	17:18
Nitrobenzene-d5	**79.7**	57.3 - 100		3/30/2020	17:18
Phenol-d5	**27.9**	10 - 107		3/30/2020	17:18
Terphenyl-d14	**79.8**	58.1 - 117		3/30/2020	17:18

Method Reference(s): EPA 8270D
EPA 3510C
Preparation Date: 3/30/2020
Data File: B45440.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		4/3/2020 19:28
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		4/3/2020 19:28
1,1,2-Trichloroethane	< 2.00	ug/L		4/3/2020 19:28
1,1-Dichloroethane	< 2.00	ug/L		4/3/2020 19:28
1,1-Dichloroethene	< 2.00	ug/L		4/3/2020 19:28
1,2,3-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:28
1,2,4-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:28
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		4/3/2020 19:28
1,2-Dibromoethane	< 2.00	ug/L		4/3/2020 19:28
1,2-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:28
1,2-Dichloroethane	< 2.00	ug/L		4/3/2020 19:28
1,2-Dichloropropane	< 2.00	ug/L		4/3/2020 19:28
1,3-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:28
1,4-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:28
1,4-Dioxane	< 20.0	ug/L		4/3/2020 19:28
2-Butanone	< 10.0	ug/L		4/3/2020 19:28
2-Hexanone	< 5.00	ug/L		4/3/2020 19:28
4-Methyl-2-pentanone	< 5.00	ug/L		4/3/2020 19:28
Acetone	< 10.0	ug/L		4/3/2020 19:28
Benzene	< 1.00	ug/L		4/3/2020 19:28
Bromochloromethane	< 5.00	ug/L		4/3/2020 19:28
Bromodichloromethane	< 2.00	ug/L		4/3/2020 19:28
Bromoform	< 5.00	ug/L		4/3/2020 19:28

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Bromomethane	< 2.00	ug/L		4/3/2020	19:28
Carbon disulfide	< 2.00	ug/L		4/3/2020	19:28
Carbon Tetrachloride	< 2.00	ug/L		4/3/2020	19:28
Chlorobenzene	< 2.00	ug/L		4/3/2020	19:28
Chloroethane	< 2.00	ug/L		4/3/2020	19:28
Chloroform	< 2.00	ug/L		4/3/2020	19:28
Chloromethane	< 2.00	ug/L		4/3/2020	19:28
cis-1,2-Dichloroethene	< 2.00	ug/L		4/3/2020	19:28
cis-1,3-Dichloropropene	< 2.00	ug/L		4/3/2020	19:28
Cyclohexane	< 10.0	ug/L		4/3/2020	19:28
Dibromochloromethane	< 2.00	ug/L		4/3/2020	19:28
Dichlorodifluoromethane	< 2.00	ug/L		4/3/2020	19:28
Ethylbenzene	**3.14**	ug/L		4/3/2020	19:28
Freon 113	< 2.00	ug/L		4/3/2020	19:28
Isopropylbenzene	< 2.00	ug/L		4/3/2020	19:28
m,p-Xylene	**1.25**	ug/L	J	4/3/2020	19:28
Methyl acetate	< 2.00	ug/L		4/3/2020	19:28
Methyl tert-butyl Ether	< 2.00	ug/L		4/3/2020	19:28
Methylcyclohexane	< 2.00	ug/L		4/3/2020	19:28
Methylene chloride	< 5.00	ug/L		4/3/2020	19:28
o-Xylene	< 2.00	ug/L		4/3/2020	19:28
Styrene	< 5.00	ug/L		4/3/2020	19:28
Tetrachloroethene	< 2.00	ug/L		4/3/2020	19:28
Toluene	< 2.00	ug/L		4/3/2020	19:28
trans-1,2-Dichloroethene	< 2.00	ug/L		4/3/2020	19:28

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 2.00	ug/L		4/3/2020	19:28
Trichloroethene	< 2.00	ug/L		4/3/2020	19:28
Trichlorofluoromethane	< 2.00	ug/L		4/3/2020	19:28
Vinyl chloride	< 2.00	ug/L		4/3/2020	19:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**114**	80.8 - 132		4/3/2020	19:28
4-Bromofluorobenzene	**103**	56.6 - 130		4/3/2020	19:28
Pentafluorobenzene	**101**	87.4 - 113		4/3/2020	19:28
Toluene-D8	**96.4**	82.2 - 115		4/3/2020	19:28

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x69427.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	7.61 @ 15.7 C	S.U.		3/26/2020 11:35

Method Reference(s): SM22 4500 H+ B

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.01.03242020
Lab Sample ID: 201337-02A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 17:01
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 17:01
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 17:01
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 17:01
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 17:01
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 17:01
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 17:01
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 17:01
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 17:01
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 17:01
Pyridine	< 40.0	ug/L	5000		3/29/2020 17:01

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**78.9**	61.4 - 115		3/29/2020 17:01
2-Fluorobiphenyl	**73.1**	38.4 - 101		3/29/2020 17:01
2-Fluorophenol	**62.8**	12.7 - 105		3/29/2020 17:01
Nitrobenzene-d5	**93.5**	57.3 - 100		3/29/2020 17:01
Phenol-d5	**57.8**	10 - 107		3/29/2020 17:01
Terphenyl-d14	**78.9**	58.1 - 117		3/29/2020 17:01

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45423.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:54

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 13:33
Endrin	< 1.00	ug/L	20		3/30/2020 13:33
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 13:33
Heptachlor	< 1.00	ug/L	8		3/30/2020 13:33
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 13:33
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 13:33
Toxaphene	< 20.0	ug/L	500		3/30/2020 13:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**128**	14.8 - 154		3/30/2020 13:33
Tetrachloro-m-xylene (1)	**89.1**	32.7 - 101		3/30/2020 13:33

Method Reference(s): EPA 8081B
EPA 1311 / 3510C

Preparation Date: 3/28/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:39
Barium	< 0.500	mg/L	100		3/30/2020 18:39
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:39
Chromium	< 0.500	mg/L	5		3/30/2020 18:39
Lead	< 0.500	mg/L	5		3/30/2020 18:39
Selenium	< 0.200	mg/L	1		3/30/2020 18:39
Silver	< 0.500	mg/L	5		3/30/2020 18:39

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.01.03242020		
Lab Sample ID:	201337-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 16:52
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 16:52
2-Butanone	< 100	ug/L	200000		4/3/2020 16:52
Benzene	< 20.0	ug/L	500		4/3/2020 16:52
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 16:52
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 16:52
Chloroform	< 20.0	ug/L	6000		4/3/2020 16:52
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 16:52
Trichloroethene	< 20.0	ug/L	500		4/3/2020 16:52
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 16:52

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**108**	80.8 - 132		4/3/2020 16:52
4-Bromofluorobenzene	**99.4**	56.6 - 130		4/3/2020 16:52
Pentafluorobenzene	**103**	87.4 - 113		4/3/2020 16:52
Toluene-D8	**97.8**	82.2 - 115		4/3/2020 16:52

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x69420.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/30/2020

Method Reference(s): EPA 1010A

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 1.00	ug/L		3/30/2020 14:20
PCB-1221	< 1.00	ug/L		3/30/2020 14:20
PCB-1232	< 1.00	ug/L		3/30/2020 14:20
PCB-1242	< 1.00	ug/L		3/30/2020 14:20
PCB-1248	< 1.00	ug/L		3/30/2020 14:20
PCB-1254	< 1.00	ug/L		3/30/2020 14:20
PCB-1260	< 1.00	ug/L		3/30/2020 14:20
PCB-1262	< 1.00	ug/L		3/30/2020 14:20
PCB-1268	< 1.00	ug/L		3/30/2020 14:20

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**36.0**	29.6 - 91.8		3/30/2020 14:20

Method Reference(s): EPA 8082A
EPA 3510C
Preparation Date: 3/30/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 10.0	ug/L		3/30/2020 17:47
1,2,4,5-Tetrachlorobenzene	< 10.0	ug/L		3/30/2020 17:47
1,2,4-Trichlorobenzene	< 10.0	ug/L		3/30/2020 17:47
1,2-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:47
1,3-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:47
1,4-Dichlorobenzene	< 10.0	ug/L		3/30/2020 17:47
2,2-Oxybis (1-chloropropane)	< 10.0	ug/L		3/30/2020 17:47
2,3,4,6-Tetrachlorophenol	< 10.0	ug/L	DL	3/30/2020 17:47
2,4,5-Trichlorophenol	< 20.0	ug/L		3/30/2020 17:47
2,4,6-Trichlorophenol	< 10.0	ug/L	DL	3/30/2020 17:47
2,4-Dichlorophenol	< 10.0	ug/L		3/30/2020 17:47
2,4-Dimethylphenol	< 20.0	ug/L		3/30/2020 17:47
2,4-Dinitrophenol	< 20.0	ug/L		3/30/2020 17:47
2,4-Dinitrotoluene	< 10.0	ug/L		3/30/2020 17:47
2,6-Dinitrotoluene	< 10.0	ug/L		3/30/2020 17:47
2-Chloronaphthalene	< 10.0	ug/L		3/30/2020 17:47
2-Chlorophenol	< 10.0	ug/L		3/30/2020 17:47
2-Methylnapthalene	< 10.0	ug/L		3/30/2020 17:47
2-Methylphenol	< 10.0	ug/L		3/30/2020 17:47
2-Nitroaniline	< 20.0	ug/L		3/30/2020 17:47
2-Nitrophenol	< 10.0	ug/L		3/30/2020 17:47
3&4-Methylphenol	< 10.0	ug/L		3/30/2020 17:47
3,3'-Dichlorobenzidine	< 10.0	ug/L		3/30/2020 17:47

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

3-Nitroaniline	< 20.0	ug/L		3/30/2020	17:47
4,6-Dinitro-2-methylphenol	< 20.0	ug/L		3/30/2020	17:47
4-Bromophenyl phenyl ether	< 10.0	ug/L		3/30/2020	17:47
4-Chloro-3-methylphenol	< 10.0	ug/L		3/30/2020	17:47
4-Chloroaniline	< 10.0	ug/L		3/30/2020	17:47
4-Chlorophenyl phenyl ether	< 10.0	ug/L		3/30/2020	17:47
4-Nitroaniline	< 20.0	ug/L		3/30/2020	17:47
4-Nitrophenol	< 20.0	ug/L		3/30/2020	17:47
Acenaphthene	< 10.0	ug/L		3/30/2020	17:47
Acenaphthylene	**5.82**	ug/L	J	3/30/2020	17:47
Acetophenone	< 10.0	ug/L		3/30/2020	17:47
Anthracene	< 10.0	ug/L		3/30/2020	17:47
Atrazine	< 10.0	ug/L		3/30/2020	17:47
Benzaldehyde	< 10.0	ug/L		3/30/2020	17:47
Benzo (a) anthracene	**5.97**	ug/L	J	3/30/2020	17:47
Benzo (a) pyrene	< 10.0	ug/L		3/30/2020	17:47
Benzo (b) fluoranthene	**21.0**	ug/L		3/30/2020	17:47
Benzo (g,h,i) perylene	< 10.0	ug/L		3/30/2020	17:47
Benzo (k) fluoranthene	**10.6**	ug/L		3/30/2020	17:47
Bis (2-chloroethoxy) methane	< 10.0	ug/L		3/30/2020	17:47
Bis (2-chloroethyl) ether	< 10.0	ug/L		3/30/2020	17:47
Bis (2-ethylhexyl) phthalate	< 10.0	ug/L		3/30/2020	17:47
Butylbenzylphthalate	< 10.0	ug/L		3/30/2020	17:47
Caprolactam	< 10.0	ug/L		3/30/2020	17:47
Carbazole	< 10.0	ug/L		3/30/2020	17:47

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Chrysene	**28.8**	ug/L		3/30/2020	17:47
Dibenz (a,h) anthracene	< 10.0	ug/L		3/30/2020	17:47
Dibenzofuran	< 10.0	ug/L		3/30/2020	17:47
Diethyl phthalate	< 10.0	ug/L		3/30/2020	17:47
Dimethyl phthalate	< 20.0	ug/L		3/30/2020	17:47
Di-n-butyl phthalate	< 10.0	ug/L		3/30/2020	17:47
Di-n-octylphthalate	< 10.0	ug/L		3/30/2020	17:47
Fluoranthene	**47.3**	ug/L		3/30/2020	17:47
Fluorene	< 10.0	ug/L		3/30/2020	17:47
Hexachlorobenzene	< 10.0	ug/L		3/30/2020	17:47
Hexachlorobutadiene	< 10.0	ug/L		3/30/2020	17:47
Hexachlorocyclopentadiene	< 10.0	ug/L		3/30/2020	17:47
Hexachloroethane	< 10.0	ug/L		3/30/2020	17:47
Indeno (1,2,3-cd) pyrene	**5.55**	ug/L	J	3/30/2020	17:47
Isophorone	< 10.0	ug/L		3/30/2020	17:47
Naphthalene	< 10.0	ug/L		3/30/2020	17:47
Nitrobenzene	< 10.0	ug/L		3/30/2020	17:47
N-Nitroso-di-n-propylamine	< 10.0	ug/L		3/30/2020	17:47
N-Nitrosodiphenylamine	< 10.0	ug/L		3/30/2020	17:47
Pentachlorophenol	< 20.0	ug/L		3/30/2020	17:47
Phenanthrene	**20.6**	ug/L		3/30/2020	17:47
Phenol	< 10.0	ug/L		3/30/2020	17:47
Pyrene	**26.8**	ug/L		3/30/2020	17:47

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	**89.1**	61.4 - 115		3/30/2020	17:47
2-Fluorobiphenyl	**72.3**	38.4 - 101		3/30/2020	17:47
2-Fluorophenol	**40.7**	12.7 - 105		3/30/2020	17:47
Nitrobenzene-d5	**83.4**	57.3 - 100		3/30/2020	17:47
Phenol-d5	**30.4**	10 - 107		3/30/2020	17:47
Terphenyl-d14	**85.3**	58.1 - 117		3/30/2020	17:47

Method Reference(s): EPA 8270D
EPA 3510C
Preparation Date: 3/30/2020
Data File: B45441.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		4/3/2020 19:51
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		4/3/2020 19:51
1,1,2-Trichloroethane	< 2.00	ug/L		4/3/2020 19:51
1,1-Dichloroethane	< 2.00	ug/L		4/3/2020 19:51
1,1-Dichloroethene	< 2.00	ug/L		4/3/2020 19:51
1,2,3-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:51
1,2,4-Trichlorobenzene	< 5.00	ug/L		4/3/2020 19:51
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		4/3/2020 19:51
1,2-Dibromoethane	< 2.00	ug/L		4/3/2020 19:51
1,2-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:51
1,2-Dichloroethane	< 2.00	ug/L		4/3/2020 19:51
1,2-Dichloropropane	< 2.00	ug/L		4/3/2020 19:51
1,3-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:51
1,4-Dichlorobenzene	< 2.00	ug/L		4/3/2020 19:51
1,4-Dioxane	< 20.0	ug/L		4/3/2020 19:51
2-Butanone	< 10.0	ug/L		4/3/2020 19:51
2-Hexanone	< 5.00	ug/L		4/3/2020 19:51
4-Methyl-2-pentanone	< 5.00	ug/L		4/3/2020 19:51
Acetone	**8.06**	ug/L	J	4/3/2020 19:51
Benzene	< 1.00	ug/L		4/3/2020 19:51
Bromochloromethane	< 5.00	ug/L		4/3/2020 19:51
Bromodichloromethane	< 2.00	ug/L		4/3/2020 19:51
Bromoform	< 5.00	ug/L		4/3/2020 19:51

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Bromomethane	< 2.00	ug/L	4/3/2020	19:51
Carbon disulfide	< 2.00	ug/L	4/3/2020	19:51
Carbon Tetrachloride	< 2.00	ug/L	4/3/2020	19:51
Chlorobenzene	< 2.00	ug/L	4/3/2020	19:51
Chloroethane	< 2.00	ug/L	4/3/2020	19:51
Chloroform	< 2.00	ug/L	4/3/2020	19:51
Chloromethane	< 2.00	ug/L	4/3/2020	19:51
cis-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	19:51
cis-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	19:51
Cyclohexane	< 10.0	ug/L	4/3/2020	19:51
Dibromochloromethane	< 2.00	ug/L	4/3/2020	19:51
Dichlorodifluoromethane	< 2.00	ug/L	4/3/2020	19:51
Ethylbenzene	< 2.00	ug/L	4/3/2020	19:51
Freon 113	< 2.00	ug/L	4/3/2020	19:51
Isopropylbenzene	< 2.00	ug/L	4/3/2020	19:51
m,p-Xylene	< 2.00	ug/L	4/3/2020	19:51
Methyl acetate	< 2.00	ug/L	4/3/2020	19:51
Methyl tert-butyl Ether	< 2.00	ug/L	4/3/2020	19:51
Methylcyclohexane	< 2.00	ug/L	4/3/2020	19:51
Methylene chloride	< 5.00	ug/L	4/3/2020	19:51
o-Xylene	< 2.00	ug/L	4/3/2020	19:51
Styrene	< 5.00	ug/L	4/3/2020	19:51
Tetrachloroethene	< 2.00	ug/L	4/3/2020	19:51
Toluene	< 2.00	ug/L	4/3/2020	19:51
trans-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	19:51

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	19:51
Trichloroethene	< 2.00	ug/L	4/3/2020	19:51
Trichlorofluoromethane	< 2.00	ug/L	4/3/2020	19:51
Vinyl chloride	< 2.00	ug/L	4/3/2020	19:51

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**112**	80.8 - 132		4/3/2020	19:51
4-Bromofluorobenzene	**98.5**	56.6 - 130		4/3/2020	19:51
Pentafluorobenzene	**103**	87.4 - 113		4/3/2020	19:51
Toluene-D8	**97.5**	82.2 - 115		4/3/2020	19:51

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x69428.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	7.26 @ 15.5 C	S.U.		3/26/2020 11:37

Method Reference(s): SM22 4500 H+ B

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 17:30
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 17:30
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 17:30
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 17:30
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 17:30
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 17:30
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 17:30
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 17:30
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 17:30
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 17:30
Pyridine	< 40.0	ug/L	5000		3/29/2020 17:30

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**82.1**	61.4 - 115		3/29/2020 17:30
2-Fluorobiphenyl	**76.9**	38.4 - 101		3/29/2020 17:30
2-Fluorophenol	**63.4**	12.7 - 105		3/29/2020 17:30
Nitrobenzene-d5	**76.8**	57.3 - 100		3/29/2020 17:30
Phenol-d5	**58.9**	10 - 107		3/29/2020 17:30
Terphenyl-d14	**83.1**	58.1 - 117		3/29/2020 17:30

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45424.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:56

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.LOA.02.03242020
Lab Sample ID: 201337-03A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 13:52
Endrin	< 1.00	ug/L	20		3/30/2020 13:52
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 13:52
Heptachlor	**0.858**	ug/L	8	J	3/30/2020 13:52
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 13:52
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 13:52
Toxaphene	< 20.0	ug/L	500		3/30/2020 13:52

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**129**	14.8 - 154		3/30/2020 13:52
Tetrachloro-m-xylene (1)	**93.7**	32.7 - 101		3/30/2020 13:52

Method Reference(s): EPA 8081B
EPA 1311 / 3510C
Preparation Date: 3/28/2020

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:53
Barium	< 0.500	mg/L	100		3/30/2020 18:53
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:53
Chromium	< 0.500	mg/L	5		3/30/2020 18:53
Lead	< 0.500	mg/L	5		3/30/2020 18:53
Selenium	< 0.200	mg/L	1		3/30/2020 18:53
Silver	< 0.500	mg/L	5		3/30/2020 18:53

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.LOA.02.03242020		
Lab Sample ID:	201337-03A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 17:14
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 17:14
2-Butanone	< 100	ug/L	200000		4/3/2020 17:14
Benzene	< 20.0	ug/L	500		4/3/2020 17:14
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 17:14
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 17:14
Chloroform	< 20.0	ug/L	6000		4/3/2020 17:14
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 17:14
Trichloroethene	< 20.0	ug/L	500		4/3/2020 17:14
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 17:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	80.8 - 132		4/3/2020 17:14
4-Bromofluorobenzene	**99.2**	56.6 - 130		4/3/2020 17:14
Pentafluorobenzene	**97.4**	87.4 - 113		4/3/2020 17:14
Toluene-D8	**93.1**	82.2 - 115		4/3/2020 17:14

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x69421.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/30/2020

Method Reference(s): EPA 1010A

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 1.00	ug/L		3/30/2020 12:44
PCB-1221	< 1.00	ug/L		3/30/2020 12:44
PCB-1232	< 1.00	ug/L		3/30/2020 12:44
PCB-1242	< 1.00	ug/L		3/30/2020 12:44
PCB-1248	< 1.00	ug/L		3/30/2020 12:44
PCB-1254	< 1.00	ug/L		3/30/2020 12:44
PCB-1260	< 1.00	ug/L		3/30/2020 12:44
PCB-1262	< 1.00	ug/L		3/30/2020 12:44
PCB-1268	< 1.00	ug/L		3/30/2020 12:44

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**69.5**	29.6 - 91.8		3/30/2020 12:44

Method Reference(s): EPA 8082A
EPA 3510C
Preparation Date: 3/30/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 10.0	ug/L		3/30/2020 18:15
1,2,4,5-Tetrachlorobenzene	< 10.0	ug/L		3/30/2020 18:15
1,2,4-Trichlorobenzene	< 10.0	ug/L		3/30/2020 18:15
1,2-Dichlorobenzene	< 10.0	ug/L		3/30/2020 18:15
1,3-Dichlorobenzene	< 10.0	ug/L		3/30/2020 18:15
1,4-Dichlorobenzene	< 10.0	ug/L		3/30/2020 18:15
2,2-Oxybis (1-chloropropane)	< 10.0	ug/L		3/30/2020 18:15
2,3,4,6-Tetrachlorophenol	< 10.0	ug/L	DL	3/30/2020 18:15
2,4,5-Trichlorophenol	< 20.0	ug/L		3/30/2020 18:15
2,4,6-Trichlorophenol	< 10.0	ug/L	DL	3/30/2020 18:15
2,4-Dichlorophenol	< 10.0	ug/L		3/30/2020 18:15
2,4-Dimethylphenol	< 20.0	ug/L		3/30/2020 18:15
2,4-Dinitrophenol	< 20.0	ug/L		3/30/2020 18:15
2,4-Dinitrotoluene	< 10.0	ug/L		3/30/2020 18:15
2,6-Dinitrotoluene	< 10.0	ug/L		3/30/2020 18:15
2-Chloronaphthalene	< 10.0	ug/L		3/30/2020 18:15
2-Chlorophenol	< 10.0	ug/L		3/30/2020 18:15
2-Methylnapthalene	< 10.0	ug/L		3/30/2020 18:15
2-Methylphenol	< 10.0	ug/L		3/30/2020 18:15
2-Nitroaniline	< 20.0	ug/L		3/30/2020 18:15
2-Nitrophenol	< 10.0	ug/L		3/30/2020 18:15
3&4-Methylphenol	< 10.0	ug/L		3/30/2020 18:15
3,3'-Dichlorobenzidine	< 10.0	ug/L		3/30/2020 18:15

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

3-Nitroaniline	< 20.0	ug/L	3/30/2020	18:15
4,6-Dinitro-2-methylphenol	< 20.0	ug/L	3/30/2020	18:15
4-Bromophenyl phenyl ether	< 10.0	ug/L	3/30/2020	18:15
4-Chloro-3-methylphenol	< 10.0	ug/L	3/30/2020	18:15
4-Chloroaniline	< 10.0	ug/L	3/30/2020	18:15
4-Chlorophenyl phenyl ether	< 10.0	ug/L	3/30/2020	18:15
4-Nitroaniline	< 20.0	ug/L	3/30/2020	18:15
4-Nitrophenol	< 20.0	ug/L	3/30/2020	18:15
Acenaphthene	< 10.0	ug/L	3/30/2020	18:15
Acenaphthylene	< 10.0	ug/L	3/30/2020	18:15
Acetophenone	< 10.0	ug/L	3/30/2020	18:15
Anthracene	< 10.0	ug/L	3/30/2020	18:15
Atrazine	< 10.0	ug/L	3/30/2020	18:15
Benzaldehyde	< 10.0	ug/L	3/30/2020	18:15
Benzo (a) anthracene	< 10.0	ug/L	3/30/2020	18:15
Benzo (a) pyrene	< 10.0	ug/L	3/30/2020	18:15
Benzo (b) fluoranthene	< 10.0	ug/L	3/30/2020	18:15
Benzo (g,h,i) perylene	< 10.0	ug/L	3/30/2020	18:15
Benzo (k) fluoranthene	< 10.0	ug/L	3/30/2020	18:15
Bis (2-chloroethoxy) methane	< 10.0	ug/L	3/30/2020	18:15
Bis (2-chloroethyl) ether	< 10.0	ug/L	3/30/2020	18:15
Bis (2-ethylhexyl) phthalate	< 10.0	ug/L	3/30/2020	18:15
Butylbenzylphthalate	< 10.0	ug/L	3/30/2020	18:15
Caprolactam	< 10.0	ug/L	3/30/2020	18:15
Carbazole	< 10.0	ug/L	3/30/2020	18:15

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Chrysene	< 10.0	ug/L		3/30/2020	18:15
Dibenz (a,h) anthracene	< 10.0	ug/L		3/30/2020	18:15
Dibenzofuran	< 10.0	ug/L		3/30/2020	18:15
Diethyl phthalate	< 10.0	ug/L		3/30/2020	18:15
Dimethyl phthalate	< 20.0	ug/L		3/30/2020	18:15
Di-n-butyl phthalate	< 10.0	ug/L		3/30/2020	18:15
Di-n-octylphthalate	< 10.0	ug/L		3/30/2020	18:15
Fluoranthene	**5.89**	ug/L	J	3/30/2020	18:15
Fluorene	< 10.0	ug/L		3/30/2020	18:15
Hexachlorobenzene	< 10.0	ug/L		3/30/2020	18:15
Hexachlorobutadiene	< 10.0	ug/L		3/30/2020	18:15
Hexachlorocyclopentadiene	< 10.0	ug/L		3/30/2020	18:15
Hexachloroethane	< 10.0	ug/L		3/30/2020	18:15
Indeno (1,2,3-cd) pyrene	< 10.0	ug/L		3/30/2020	18:15
Isophorone	< 10.0	ug/L		3/30/2020	18:15
Naphthalene	< 10.0	ug/L		3/30/2020	18:15
Nitrobenzene	< 10.0	ug/L		3/30/2020	18:15
N-Nitroso-di-n-propylamine	< 10.0	ug/L		3/30/2020	18:15
N-Nitrosodiphenylamine	< 10.0	ug/L		3/30/2020	18:15
Pentachlorophenol	< 20.0	ug/L		3/30/2020	18:15
Phenanthrene	< 10.0	ug/L		3/30/2020	18:15
Phenol	< 10.0	ug/L		3/30/2020	18:15
Pyrene	< 10.0	ug/L		3/30/2020	18:15

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020

Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020

Matrix: Water **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	**86.9**	61.4 - 115		3/30/2020	18:15
2-Fluorobiphenyl	**64.4**	38.4 - 101		3/30/2020	18:15
2-Fluorophenol	**39.0**	12.7 - 105		3/30/2020	18:15
Nitrobenzene-d5	**75.7**	57.3 - 100		3/30/2020	18:15
Phenol-d5	**29.8**	10 - 107		3/30/2020	18:15
Terphenyl-d14	**83.1**	58.1 - 117		3/30/2020	18:15

Method Reference(s): EPA 8270D
EPA 3510C
Preparation Date: 3/30/2020
Data File: B45442.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		4/3/2020 20:13
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		4/3/2020 20:13
1,1,2-Trichloroethane	< 2.00	ug/L		4/3/2020 20:13
1,1-Dichloroethane	< 2.00	ug/L		4/3/2020 20:13
1,1-Dichloroethene	< 2.00	ug/L		4/3/2020 20:13
1,2,3-Trichlorobenzene	< 5.00	ug/L		4/3/2020 20:13
1,2,4-Trichlorobenzene	< 5.00	ug/L		4/3/2020 20:13
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		4/3/2020 20:13
1,2-Dibromoethane	< 2.00	ug/L		4/3/2020 20:13
1,2-Dichlorobenzene	< 2.00	ug/L		4/3/2020 20:13
1,2-Dichloroethane	< 2.00	ug/L		4/3/2020 20:13
1,2-Dichloropropane	< 2.00	ug/L		4/3/2020 20:13
1,3-Dichlorobenzene	< 2.00	ug/L		4/3/2020 20:13
1,4-Dichlorobenzene	< 2.00	ug/L		4/3/2020 20:13
1,4-Dioxane	< 20.0	ug/L		4/3/2020 20:13
2-Butanone	< 10.0	ug/L		4/3/2020 20:13
2-Hexanone	< 5.00	ug/L		4/3/2020 20:13
4-Methyl-2-pentanone	< 5.00	ug/L		4/3/2020 20:13
Acetone	< 10.0	ug/L		4/3/2020 20:13
Benzene	< 1.00	ug/L		4/3/2020 20:13
Bromochloromethane	< 5.00	ug/L		4/3/2020 20:13
Bromodichloromethane	< 2.00	ug/L		4/3/2020 20:13
Bromoform	< 5.00	ug/L		4/3/2020 20:13

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

Bromomethane	< 2.00	ug/L	4/3/2020	20:13
Carbon disulfide	< 2.00	ug/L	4/3/2020	20:13
Carbon Tetrachloride	< 2.00	ug/L	4/3/2020	20:13
Chlorobenzene	< 2.00	ug/L	4/3/2020	20:13
Chloroethane	< 2.00	ug/L	4/3/2020	20:13
Chloroform	< 2.00	ug/L	4/3/2020	20:13
Chloromethane	< 2.00	ug/L	4/3/2020	20:13
cis-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	20:13
cis-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	20:13
Cyclohexane	< 10.0	ug/L	4/3/2020	20:13
Dibromochloromethane	< 2.00	ug/L	4/3/2020	20:13
Dichlorodifluoromethane	< 2.00	ug/L	4/3/2020	20:13
Ethylbenzene	< 2.00	ug/L	4/3/2020	20:13
Freon 113	< 2.00	ug/L	4/3/2020	20:13
Isopropylbenzene	< 2.00	ug/L	4/3/2020	20:13
m,p-Xylene	< 2.00	ug/L	4/3/2020	20:13
Methyl acetate	< 2.00	ug/L	4/3/2020	20:13
Methyl tert-butyl Ether	< 2.00	ug/L	4/3/2020	20:13
Methylcyclohexane	< 2.00	ug/L	4/3/2020	20:13
Methylene chloride	< 5.00	ug/L	4/3/2020	20:13
o-Xylene	< 2.00	ug/L	4/3/2020	20:13
Styrene	< 5.00	ug/L	4/3/2020	20:13
Tetrachloroethene	< 2.00	ug/L	4/3/2020	20:13
Toluene	< 2.00	ug/L	4/3/2020	20:13
trans-1,2-Dichloroethene	< 2.00	ug/L	4/3/2020	20:13

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04 **Date Sampled:** 3/24/2020
Matrix: Water **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	4/3/2020	20:13
Trichloroethene	< 2.00	ug/L	4/3/2020	20:13
Trichlorofluoromethane	< 2.00	ug/L	4/3/2020	20:13
Vinyl chloride	< 2.00	ug/L	4/3/2020	20:13

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**112**	80.8 - 132		4/3/2020	20:13
4-Bromofluorobenzene	**103**	56.6 - 130		4/3/2020	20:13
Pentafluorobenzene	**103**	87.4 - 113		4/3/2020	20:13
Toluene-D8	**98.2**	82.2 - 115		4/3/2020	20:13

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x69429.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04	**Date Sampled:**	3/24/2020
Matrix:	Water	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	7.69 @ 15.7 C	S.U.		3/26/2020 11:40

Method Reference(s): SM22 4500 H+ B

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

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier: SW.WAL.02.03242020
Lab Sample ID: 201337-04A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 17:59
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 17:59
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 17:59
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 17:59
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 17:59
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 17:59
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 17:59
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 17:59
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 17:59
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 17:59
Pyridine	< 40.0	ug/L	5000		3/29/2020 17:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**39.1**	61.4 - 115	*	3/29/2020 17:59
2-Fluorobiphenyl	**73.0**	38.4 - 101		3/29/2020 17:59
2-Fluorophenol	**34.7**	12.7 - 105		3/29/2020 17:59
Nitrobenzene-d5	**95.7**	57.3 - 100		3/29/2020 17:59
Phenol-d5	**53.1**	10 - 107		3/29/2020 17:59
Terphenyl-d14	**83.5**	58.1 - 117		3/29/2020 17:59

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45425.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:58

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 14:11
Endrin	< 1.00	ug/L	20		3/30/2020 14:11
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 14:11
Heptachlor	< 1.00	ug/L	8		3/30/2020 14:11
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 14:11
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 14:11
Toxaphene	< 20.0	ug/L	500		3/30/2020 14:11

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**119**	14.8 - 154		3/30/2020 14:11
Tetrachloro-m-xylene (1)	**84.8**	32.7 - 101		3/30/2020 14:11

Method Reference(s): EPA 8081B
EPA 1311 / 3510C

Preparation Date: 3/28/2020

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.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:58
Barium	< 0.500	mg/L	100		3/30/2020 18:58
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:58
Chromium	< 0.500	mg/L	5		3/30/2020 18:58
Lead	< 0.500	mg/L	5		3/30/2020 18:58
Selenium	< 0.200	mg/L	1		3/30/2020 18:58
Silver	< 0.500	mg/L	5		3/30/2020 18:58

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201337

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

Project Reference: Riverview

Sample Identifier:	SW.WAL.02.03242020		
Lab Sample ID:	201337-04A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 17:36
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 17:36
2-Butanone	< 100	ug/L	200000		4/3/2020 17:36
Benzene	< 20.0	ug/L	500		4/3/2020 17:36
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 17:36
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 17:36
Chloroform	< 20.0	ug/L	6000		4/3/2020 17:36
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 17:36
Trichloroethene	< 20.0	ug/L	500		4/3/2020 17:36
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 17:36

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	80.8 - 132		4/3/2020 17:36
4-Bromofluorobenzene	**103**	56.6 - 130		4/3/2020 17:36
Pentafluorobenzene	**103**	87.4 - 113		4/3/2020 17:36
Toluene-D8	**96.8**	82.2 - 115		4/3/2020 17:36

Method Reference(s): EPA 8260C
EPA 1311 / 5030C

Data File: x69422.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

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.
"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.

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, tern 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 wi 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 th 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.

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

1 of 3

PARADIGM

CHAIN OF CUSTODY

Client Inventum mw 3/26/2020

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	JOHN BLACK	CLIENT:	SAME	201337
ADDRESS:	481 CARLISLE DR #202	ADDRESS:		Quotation #:
CITY:	HERNDON	STATE: VA	ZIP: 20170	CITY: STATE: ZIP:
PHONE:	571 217 6761	PHONE:		Email: John.black@inventumeng.com
ATTN:	JOHN BLACK	ATTN:		

PROJECT REFERENCE

RIVERVIEW

Matrix Codes:

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

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	SVOC	PCB	Reactive Cyanide/Sulfide	VOCs	RCRA Metals	Mercury	Pesticides	Herbicides	REMARKS	PARADIGM LAB SAMPLE NUMBER
03/24/20	1200		✓	SW.WAL.01.03242020	AQ	6	✓	✓	—	—	—	—	✓	—	FILTER, IP>	01A
~~03/24/20~~			✓	~~SW.WAL.02.03242020~~	~~AQ~~										5% Bolias	
03/24/20	1100		✓	SD LOA.01.03242020	AQ	6	✓	✓	✓	✓	✓	✓	✓	✓	RUN TCLP	02A
03/24/20	1130		✓	SD LOA.02.03242020	AQ	6	✓	✓	✓	✓	✓	✓	✓	✓		03A
															A for TCLP extract sub sent directly to sub lab mw 3/26/2020	
															per email all samples get:	
						Eq	1	TCLP+Pest/Merb, PCB, Flash, pH, reactivity, TCL SVO, TCL VOC								

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒ per email mw 3/26/2020	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☒		
Rush 1 day	☐				
Date Needed _____ please indicate date needed:		Other ☐ please indicate package needed:		Other EDD ☐ please indicate EDD needed :	

Sampled By	3/23/2020 4:30	Total Cost:
Relinquished By	3/23/2020 7:00	
Received By	3/23/2020	P.I.F.
Received @ Lab By	Molly Vail 3/26/2020 1044	

3°C iced 3/25/2020 16:01

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

See additional page for sample conditions.

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

2 of 3

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:		INVOICE TO:		
CLIENT:	INVENTUM	CLIENT:	SAME	LAB PROJECT ID: 201337
ADDRESS:	481 CARLISLE DR #202	ADDRESS:		Quotation #:
CITY:	HERNDON STATE: VA ZIP: 20170	CITY: STATE: ZIP:		Email: john.black@inventumeng.com
PHONE:	571 217 6761	PHONE:		
ATTN:	JOHN BLACK	ATTN:		

PROJECT REFERENCE: Riverview

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

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	SVOCs	PCBs	Reactivity	VOCs	RCRA metals	Mercury	Pesticides	Herbicides	REMARKS	PARADIGM LAB SAMPLE NUMBER
03/24/2020	1230		✓	SS-WALL-02-03242020	AQ	6	J	J	J	J	J	J	J	J	Filter if 5% Solids Run-TCLP	04A

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Date Needed _____ please indicate date needed:		Other please indicate package needed:	☐	Other EDD please indicate EDD needed:	☐

Sampled By — Date/Time: 03/24/2020 1230

Relinquished By — Date/Time: 03/24/2020 5PM

Received By — Date/Time: 3/24/2020

Received @ Lab By — Date/Time: 3/26/2020 1044

Total Cost:

P.I.F.

3°C iced 3/25/2020 16:01

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

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: Inventum
Completed by: Molly Kail
Lab Project ID: 201337
Date: 3/26/2020

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	X		
Comments	Transfered portion for all samples for pH to 250ml poly		
Transferred to method-compliant container	X S3 to P3		X
Headspace (<1 mL)	VOA, TOC/DOA		X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X	pH	
Comments			
Temperature	X		met pH
Comments	3 iced		
Compliant Sample Quantity/Type	X		
Comments	TCLP Herbs reactivity sent directly to sub lab No bottle cert for VOA vials		

ANALYTICAL REPORT

Lab Number:	L2013258
Client:	Paradigm Environmental Services 179 Lake Avenue Rochester, NY 14608
ATTN:	Jane Daloia
Phone:	(585) 647-2530
Project Name:	RIVERVIEW
Project Number:	RIVERVIEW
Report Date:	03/30/20

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).

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

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2013258-01	SWLOA - 03242020	WATER	Not Specified	03/24/20 10:00	03/25/20
L2013258-02	SWWAL01 - 03242020	WATER	Not Specified	03/24/20 10:00	03/25/20
L2013258-03	SWWAL02 - 03242020	WATER	Not Specified	03/24/20 10:00	03/25/20
L2013258-04	SWLOA01 - 03242020	WATER	Not Specified	03/24/20 10:00	03/25/20

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

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.

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

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.

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: Caitlin Walukevich

Title: Technical Director/Representative Date: 03/30/20

ORGANICS

PESTICIDES

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-01
Client ID: SWLOA - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 03/29/20 17:18
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/28/20 00:00

TCLP/SPLP Ext. Date: 03/26/20 12:16
Methylation Date: 03/28/20 15:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	102		30-150	A
DCAA	92		30-150	B

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-02
Client ID: SWWAL01 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 03/29/20 17:37
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/28/20 00:00

TCLP/SPLP Ext. Date: 03/26/20 12:16
Methylation Date: 03/28/20 15:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	87		30-150	A
DCAA	79		30-150	B

Project Name: RIVERVIEW
Project Number: RIVERVIEW
Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-03
Client ID: SWWAL02 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 03/29/20 17:55
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/28/20 00:00

TCLP/SPLP Ext. Date: 03/26/20 12:16
Methylation Date: 03/28/20 15:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	97		30-150	A
DCAA	88		30-150	B

Project Name: RIVERVIEW
Project Number: RIVERVIEW
Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-04
Client ID: SWLOA01 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 03/29/20 18:13
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/28/20 00:00

TCLP/SPLP Ext. Date: 03/26/20 12:16
Methylation Date: 03/28/20 15:32

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	138		30-150	A
DCAA	129		30-150	B

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 03/29/20 16:05
Analyst: JMC
TCLP/SPLP Extraction Date: 03/26/20 12:16
Methylation Date: 03/28/20 15:32

Extraction Method: EPA 8151A
Extraction Date: 03/28/20 00:00

Parameter	Result	Qualifier	Units	RL	MDL	Column
TCLP Herbicides by EPA 1311 - Westborough Lab for sample(s): 01-04 Batch: WG1356028-1						
2,4-D	ND		mg/l	0.025	0.001	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	94		30-150	A
DCAA	90		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
TCLP Herbicides by EPA 1311 - Westborough Lab Associated sample(s): 01-04 Batch: WG1356028-2 WG1356028-3									
2,4-D	116		127		30-150	9		25	A
2,4,5-TP (Silvex)	81		92		30-150	13		25	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	91		101		30-150	A
DCAA	94		109		30-150	B

INORGANICS
&
MISCELLANEOUS

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-01
Client ID: SWLOA - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
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, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:30	125,7.3	KF
Sulfide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:25	125,7.3	KF

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-02
Client ID: SWWAL01 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
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, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:30	125,7.3	KF
Sulfide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:25	125,7.3	KF

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-03
Client ID: SWWAL02 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
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, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:30	125,7.3	KF
Sulfide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:25	125,7.3	KF

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

SAMPLE RESULTS

Lab ID: L2013258-04
Client ID: SWLOA01 - 03242020
Sample Location: Not Specified

Date Collected: 03/24/20 10:00
Date Received: 03/25/20
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, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:30	125,7.3	KF
Sulfide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:26	125,7.3	KF

Project Name: RIVERVIEW
Project Number: RIVERVIEW
Lab Number: L2013258
Report Date: 03/30/20

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): 01-04 Batch: WG1355664-1										
Sulfide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:24	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 01-04 Batch: WG1355665-1										
Cyanide, Reactive	ND		mg/l	1.0	1.0	1	03/27/20 01:11	03/27/20 02:30	125,7.3	KF

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1355664-2								
Sulfide, Reactive	115		-		60-125	-		25
General Chemistry - Westborough Lab Associated sample(s): 01-04 Batch: WG1355665-2								
Cyanide, Reactive	80		-		30-125	-		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1355664-3 QC Sample: L2013435-01 Client ID: DUP Sample						
Sulfide, Reactive	ND	ND	mg/l	NC		25
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1355665-3 QC Sample: L2013435-01 Client ID: DUP Sample						
Cyanide, Reactive	ND	ND	mg/l	NC		25

Project Name: RIVERVIEW
Project Number: RIVERVIEW

Lab Number: L2013258
Report Date: 03/30/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2013258-01A	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		REACTS(7),REACTCN(7)
L2013258-01X	Amber 1000ml unpreserved Extracts	A	NA		3.5	Y	Absent		HERB-TCLP*(14)
L2013258-01X9	Tumble Vessel	A	NA		3.5	Y	Absent		-
L2013258-02A	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		REACTS(7),REACTCN(7)
L2013258-02X	Amber 1000ml unpreserved Extracts	A	NA		3.5	Y	Absent		HERB-TCLP*(14)
L2013258-02X9	Tumble Vessel	A	NA		3.5	Y	Absent		-
L2013258-03A	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		REACTS(7),REACTCN(7)
L2013258-03X	Amber 1000ml unpreserved Extracts	A	NA		3.5	Y	Absent		HERB-TCLP*(14)
L2013258-03X9	Tumble Vessel	A	NA		3.5	Y	Absent		-
L2013258-04A	Amber 1000ml unpreserved	A	7	7	3.5	Y	Absent		REACTS(7),REACTCN(7)
L2013258-04X	Amber 1000ml unpreserved Extracts	A	NA		3.5	Y	Absent		HERB-TCLP*(14)
L2013258-04X9	Tumble Vessel	A	NA		3.5	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

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.

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.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

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. 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.

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.

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	RIVERVIEW	**Lab Number:**	L2013258
Project Number:	RIVERVIEW	**Report Date:**	03/30/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
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, SM4500Cl-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.**

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.

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.

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

L2013258

CHAIN OF CUSTODY

PARADIGM

REPORT TO:		INVOICE TO:		
CLIENT:	Paradigm Environmental	CLIENT:	Same	LAB PROJECT ID
ADDRESS:	179 Lake Avenue	ADDRESS:		
CITY:	Rochester STATE: NY ZIP 14608	CITY:	STATE: ZIP:	Results by 3 PM
PHONE:	585-647-2530	PHONE:		Email:
ATTN:	reporting@paradigmenv.com	ATTN:	accpay@paradigmenv.com	

PROJECT REFERENCE

Riverview

Matrix Codes:

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

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP Herbicides	Reactivity	REMARKS	PARADIGM LAB SAMPLE NUMBER
3/24/20	10:00		X	SWLOA - 03242020	AQ	1	X	X		
3/24/20	10:00		X	SWWAL01 - 03242020	AQ	1	X	X		
3/24/20	10:00		X	SWWAL02 - 03242020	AQ	1	X	X		
3/24/20	10:00		X	SWLOA01 - 03242020	AQ	1	X	X		

Turnaround Time		Report Supplements			
Standard 5 day	X	None Required		None Required	
10 day		Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other		Other		Other EDD	

Client

Sampled By	Date/Time	
	03/25/20	1130Am
Relinquished By	Date/Time	
Joellen Tilley (AAC)	3/25/20	11:30
Received By	Date/Time	
Joellen Tilley (AAC)	3/25/20	11:30
~~Received @ Lab By~~	Date/Time	
RELINQUISHED BY	3/26/20	01:25

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/28/2020

Method Reference(s): EPA 1010A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1221	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1232	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1242	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1248	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1254	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1260	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1262	< 0.0357	mg/Kg		3/28/2020 10:26
PCB-1268	< 0.0357	mg/Kg		3/28/2020 10:26

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**10.2**	18.2 - 85.6	*	3/28/2020 10:26

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 3/27/2020

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 3840	ug/Kg		3/30/2020 15:52
1,2,4,5-Tetrachlorobenzene	< 3840	ug/Kg		3/30/2020 15:52
1,2,4-Trichlorobenzene	< 3840	ug/Kg		3/30/2020 15:52
1,2-Dichlorobenzene	< 3840	ug/Kg		3/30/2020 15:52
1,3-Dichlorobenzene	< 3840	ug/Kg		3/30/2020 15:52
1,4-Dichlorobenzene	< 3840	ug/Kg		3/30/2020 15:52
2,2-Oxybis (1-chloropropane)	< 3840	ug/Kg		3/30/2020 15:52
2,3,4,6-Tetrachlorophenol	< 3840	ug/Kg		3/30/2020 15:52
2,4,5-Trichlorophenol	< 3840	ug/Kg		3/30/2020 15:52
2,4,6-Trichlorophenol	< 3840	ug/Kg		3/30/2020 15:52
2,4-Dichlorophenol	< 3840	ug/Kg		3/30/2020 15:52
2,4-Dimethylphenol	< 3840	ug/Kg		3/30/2020 15:52
2,4-Dinitrophenol	< 15400	ug/Kg		3/30/2020 15:52
2,4-Dinitrotoluene	< 3840	ug/Kg		3/30/2020 15:52
2,6-Dinitrotoluene	< 3840	ug/Kg		3/30/2020 15:52
2-Chloronaphthalene	< 3840	ug/Kg		3/30/2020 15:52
2-Chlorophenol	< 3840	ug/Kg		3/30/2020 15:52
2-Methylnapthalene	< 3840	ug/Kg		3/30/2020 15:52
2-Methylphenol	< 3840	ug/Kg		3/30/2020 15:52
2-Nitroaniline	< 3840	ug/Kg		3/30/2020 15:52
2-Nitrophenol	< 3840	ug/Kg		3/30/2020 15:52
3&4-Methylphenol	< 3840	ug/Kg		3/30/2020 15:52
3,3'-Dichlorobenzidine	< 3840	ug/Kg		3/30/2020 15:52

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

3-Nitroaniline	< 3840	ug/Kg	3/30/2020	15:52
4,6-Dinitro-2-methylphenol	< 7680	ug/Kg	3/30/2020	15:52
4-Bromophenyl phenyl ether	< 3840	ug/Kg	3/30/2020	15:52
4-Chloro-3-methylphenol	< 3840	ug/Kg	3/30/2020	15:52
4-Chloroaniline	< 3840	ug/Kg	3/30/2020	15:52
4-Chlorophenyl phenyl ether	< 3840	ug/Kg	3/30/2020	15:52
4-Nitroaniline	< 3840	ug/Kg	3/30/2020	15:52
4-Nitrophenol	< 3840	ug/Kg	3/30/2020	15:52
Acenaphthene	< 3840	ug/Kg	3/30/2020	15:52
Acenaphthylene	**13300**	ug/Kg	3/30/2020	15:52
Acetophenone	< 3840	ug/Kg	3/30/2020	15:52
Anthracene	**6000**	ug/Kg	3/30/2020	15:52
Atrazine	< 3840	ug/Kg	3/30/2020	15:52
Benzaldehyde	< 3840	ug/Kg	3/30/2020	15:52
Benzo (a) anthracene	**23200**	ug/Kg	3/30/2020	15:52
Benzo (a) pyrene	**38700**	ug/Kg	3/30/2020	15:52
Benzo (b) fluoranthene	**54900**	ug/Kg	3/30/2020	15:52
Benzo (g,h,i) perylene	**33600**	ug/Kg	3/30/2020	15:52
Benzo (k) fluoranthene	**25900**	ug/Kg	3/30/2020	15:52
Bis (2-chloroethoxy) methane	< 3840	ug/Kg	3/30/2020	15:52
Bis (2-chloroethyl) ether	< 3840	ug/Kg	3/30/2020	15:52
Bis (2-ethylhexyl) phthalate	< 3840	ug/Kg	3/30/2020	15:52
Butylbenzylphthalate	< 3840	ug/Kg	3/30/2020	15:52
Caprolactam	< 3840	ug/Kg	3/30/2020	15:52
Carbazole	**5340**	ug/Kg	3/30/2020	15:52

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Chrysene	**30800**	ug/Kg		3/30/2020	15:52
Dibenz (a,h) anthracene	**8920**	ug/Kg		3/30/2020	15:52
Dibenzofuran	< 3840	ug/Kg		3/30/2020	15:52
Diethyl phthalate	< 3840	ug/Kg		3/30/2020	15:52
Dimethyl phthalate	< 3840	ug/Kg		3/30/2020	15:52
Di-n-butyl phthalate	< 3840	ug/Kg		3/30/2020	15:52
Di-n-octylphthalate	< 3840	ug/Kg		3/30/2020	15:52
Fluoranthene	**36600**	ug/Kg		3/30/2020	15:52
Fluorene	**2820**	ug/Kg	J	3/30/2020	15:52
Hexachlorobenzene	< 3840	ug/Kg		3/30/2020	15:52
Hexachlorobutadiene	< 3840	ug/Kg		3/30/2020	15:52
Hexachlorocyclopentadiene	< 15400	ug/Kg		3/30/2020	15:52
Hexachloroethane	< 3840	ug/Kg		3/30/2020	15:52
Indeno (1,2,3-cd) pyrene	**34600**	ug/Kg		3/30/2020	15:52
Isophorone	< 3840	ug/Kg		3/30/2020	15:52
Naphthalene	**14100**	ug/Kg		3/30/2020	15:52
Nitrobenzene	< 3840	ug/Kg		3/30/2020	15:52
N-Nitroso-di-n-propylamine	< 3840	ug/Kg		3/30/2020	15:52
N-Nitrosodiphenylamine	< 3840	ug/Kg		3/30/2020	15:52
Pentachlorophenol	< 7680	ug/Kg		3/30/2020	15:52
Phenanthrene	**14000**	ug/Kg		3/30/2020	15:52
Phenol	< 3840	ug/Kg		3/30/2020	15:52
Pyrene	**34500**	ug/Kg		3/30/2020	15:52

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	NC	39 - 88.1		3/30/2020	15:52
2-Fluorobiphenyl	NC	42.5 - 81.1		3/30/2020	15:52
2-Fluorophenol	NC	39.8 - 77.3		3/30/2020	15:52
Nitrobenzene-d5	NC	40.1 - 77.1		3/30/2020	15:52
Phenol-d5	NC	41.7 - 76.6		3/30/2020	15:52
Terphenyl-d14	NC	41.6 - 96.8		3/30/2020	15:52

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 3/28/2020
Data File: B45437.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 960	ug/Kg		4/3/2020 20:58
1,1,2,2-Tetrachloroethane	< 960	ug/Kg		4/3/2020 20:58
1,1,2-Trichloroethane	< 960	ug/Kg		4/3/2020 20:58
1,1-Dichloroethane	< 960	ug/Kg		4/3/2020 20:58
1,1-Dichloroethene	< 960	ug/Kg		4/3/2020 20:58
1,2,3-Trichlorobenzene	< 2400	ug/Kg		4/3/2020 20:58
1,2,4-Trichlorobenzene	< 2400	ug/Kg		4/3/2020 20:58
1,2-Dibromo-3-Chloropropane	< 4800	ug/Kg		4/3/2020 20:58
1,2-Dibromoethane	< 960	ug/Kg		4/3/2020 20:58
1,2-Dichlorobenzene	< 960	ug/Kg		4/3/2020 20:58
1,2-Dichloroethane	< 960	ug/Kg		4/3/2020 20:58
1,2-Dichloropropane	< 960	ug/Kg		4/3/2020 20:58
1,3-Dichlorobenzene	< 960	ug/Kg		4/3/2020 20:58
1,4-Dichlorobenzene	< 960	ug/Kg		4/3/2020 20:58
1,4-Dioxane	< 9600	ug/Kg		4/3/2020 20:58
2-Butanone	< 4800	ug/Kg		4/3/2020 20:58
2-Hexanone	< 2400	ug/Kg		4/3/2020 20:58
4-Methyl-2-pentanone	< 2400	ug/Kg		4/3/2020 20:58
Acetone	< 4800	ug/Kg		4/3/2020 20:58
Benzene	**2110**	ug/Kg		4/3/2020 20:58
Bromochloromethane	< 2400	ug/Kg		4/3/2020 20:58
Bromodichloromethane	< 960	ug/Kg		4/3/2020 20:58
Bromoform	< 2400	ug/Kg		4/3/2020 20:58

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Bromomethane	< 960	ug/Kg	4/3/2020	20:58
Carbon disulfide	< 960	ug/Kg	4/3/2020	20:58
Carbon Tetrachloride	< 960	ug/Kg	4/3/2020	20:58
Chlorobenzene	< 960	ug/Kg	4/3/2020	20:58
Chloroethane	< 960	ug/Kg	4/3/2020	20:58
Chloroform	< 960	ug/Kg	4/3/2020	20:58
Chloromethane	< 960	ug/Kg	4/3/2020	20:58
cis-1,2-Dichloroethene	< 960	ug/Kg	4/3/2020	20:58
cis-1,3-Dichloropropene	< 960	ug/Kg	4/3/2020	20:58
Cyclohexane	< 4800	ug/Kg	4/3/2020	20:58
Dibromochloromethane	< 960	ug/Kg	4/3/2020	20:58
Dichlorodifluoromethane	< 960	ug/Kg	4/3/2020	20:58
Ethylbenzene	**2820**	ug/Kg	4/3/2020	20:58
Freon 113	< 960	ug/Kg	4/3/2020	20:58
Isopropylbenzene	< 960	ug/Kg	4/3/2020	20:58
m,p-Xylene	**7630**	ug/Kg	4/3/2020	20:58
Methyl acetate	< 960	ug/Kg	4/3/2020	20:58
Methyl tert-butyl Ether	< 960	ug/Kg	4/3/2020	20:58
Methylcyclohexane	< 960	ug/Kg	4/3/2020	20:58
Methylene chloride	< 2400	ug/Kg	4/3/2020	20:58
o-Xylene	**2650**	ug/Kg	4/3/2020	20:58
Styrene	< 2400	ug/Kg	4/3/2020	20:58
Tetrachloroethene	< 960	ug/Kg	4/3/2020	20:58
Toluene	**1520**	ug/Kg	4/3/2020	20:58
trans-1,2-Dichloroethene	< 960	ug/Kg	4/3/2020	20:58

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 960	ug/Kg	4/3/2020	20:58
Trichloroethene	< 960	ug/Kg	4/3/2020	20:58
Trichlorofluoromethane	< 960	ug/Kg	4/3/2020	20:58
Vinyl chloride	< 960	ug/Kg	4/3/2020	20:58

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**108**	80.8 - 134		4/3/2020	20:58
4-Bromofluorobenzene	**97.8**	54.9 - 132		4/3/2020	20:58
Pentafluorobenzene	**104**	85.8 - 114		4/3/2020	20:58
Toluene-D8	**100**	81 - 117		4/3/2020	20:58

Method Reference(s): EPA 8260C
EPA 5035A -- H
Data File: x69431.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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

Paint Filter Test

Analyte	Result	Units	Qualifier	Date Analyzed
Paint Filter Test	Pass	N/A		3/28/2020

Method Reference(s): EPA 9095B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	8.01 @ 23.3 C	S.U.		3/30/2020 09:25

Method Reference(s): EPA 9045D

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 15:33
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 15:33
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 15:33
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 15:33
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 15:33
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 15:33
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 15:33
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 15:33
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 15:33
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 15:33
Pyridine	< 40.0	ug/L	5000		3/29/2020 15:33

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**87.6**	61.4 - 115		3/29/2020 15:33
2-Fluorobiphenyl	**80.6**	38.4 - 101		3/29/2020 15:33
2-Fluorophenol	**71.8**	12.7 - 105		3/29/2020 15:33
Nitrobenzene-d5	**105**	57.3 - 100	*	3/29/2020 15:33
Phenol-d5	**68.3**	10 - 107		3/29/2020 15:33
Terphenyl-d14	**89.3**	58.1 - 117		3/29/2020 15:33

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45420.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:48

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 12:37
Endrin	< 1.00	ug/L	20		3/30/2020 12:37
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 12:37
Heptachlor	< 1.00	ug/L	8		3/30/2020 12:37
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 12:37
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 12:37
Toxaphene	< 20.0	ug/L	500		3/30/2020 12:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**73.6**	14.8 - 154		3/30/2020 12:37
Tetrachloro-m-xylene (1)	**84.8**	32.7 - 101		3/30/2020 12:37

Method Reference(s): EPA 8081B
EPA 1311 / 3510C

Preparation Date: 3/28/2020

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.WAL.01.03242020		
Lab Sample ID:	201336-01A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:26
Barium	**0.681**	mg/L	100		3/30/2020 18:26
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:26
Chromium	< 0.500	mg/L	5		3/30/2020 18:26
Lead	< 0.500	mg/L	5		3/30/2020 18:26
Selenium	< 0.200	mg/L	1		3/30/2020 18:26
Silver	< 0.500	mg/L	5		3/30/2020 18:26

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.WAL.01.03242020
Lab Sample ID: 201336-01A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 17:59
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 17:59
2-Butanone	< 100	ug/L	200000		4/3/2020 17:59
Benzene	< 20.0	ug/L	500		4/3/2020 17:59
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 17:59
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 17:59
Chloroform	< 20.0	ug/L	6000		4/3/2020 17:59
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 17:59
Trichloroethene	< 20.0	ug/L	500		4/3/2020 17:59
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 17:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**110**	80.8 - 132		4/3/2020 17:59
4-Bromofluorobenzene	**104**	56.6 - 130		4/3/2020 17:59
Pentafluorobenzene	**102**	87.4 - 113		4/3/2020 17:59
Toluene-D8	**98.3**	82.2 - 115		4/3/2020 17:59

Method Reference(s): EPA 8260C
EPA 1311 / 5030C
Data File: x69423.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

Flash Point

Analyte	Result	Units	Qualifier	Date Analyzed
Flash Point, Celsius	>70.0	C		3/28/2020

Method Reference(s): EPA 1010A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1221	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1232	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1242	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1248	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1254	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1260	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1262	< 0.0927	mg/Kg		3/28/2020 10:50
PCB-1268	< 0.0927	mg/Kg		3/28/2020 10:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**53.6**	18.2 - 85.6		3/28/2020 10:50

Method Reference(s): EPA 8082A
EPA 3546

Preparation Date: 3/27/2020

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 48400	ug/Kg		3/30/2020 16:20
1,2,4,5-Tetrachlorobenzene	< 48400	ug/Kg		3/30/2020 16:20
1,2,4-Trichlorobenzene	< 48400	ug/Kg		3/30/2020 16:20
1,2-Dichlorobenzene	< 48400	ug/Kg		3/30/2020 16:20
1,3-Dichlorobenzene	< 48400	ug/Kg		3/30/2020 16:20
1,4-Dichlorobenzene	< 48400	ug/Kg		3/30/2020 16:20
2,2-Oxybis (1-chloropropane)	< 48400	ug/Kg		3/30/2020 16:20
2,3,4,6-Tetrachlorophenol	< 48400	ug/Kg		3/30/2020 16:20
2,4,5-Trichlorophenol	< 48400	ug/Kg		3/30/2020 16:20
2,4,6-Trichlorophenol	< 48400	ug/Kg		3/30/2020 16:20
2,4-Dichlorophenol	< 48400	ug/Kg		3/30/2020 16:20
2,4-Dimethylphenol	< 48400	ug/Kg		3/30/2020 16:20
2,4-Dinitrophenol	< 194000	ug/Kg		3/30/2020 16:20
2,4-Dinitrotoluene	< 48400	ug/Kg		3/30/2020 16:20
2,6-Dinitrotoluene	< 48400	ug/Kg		3/30/2020 16:20
2-Chloronaphthalene	< 48400	ug/Kg		3/30/2020 16:20
2-Chlorophenol	< 48400	ug/Kg		3/30/2020 16:20
2-Methylnapthalene	**79600**	ug/Kg		3/30/2020 16:20
2-Methylphenol	< 48400	ug/Kg		3/30/2020 16:20
2-Nitroaniline	< 48400	ug/Kg		3/30/2020 16:20
2-Nitrophenol	< 48400	ug/Kg		3/30/2020 16:20
3&4-Methylphenol	< 48400	ug/Kg		3/30/2020 16:20
3,3'-Dichlorobenzidine	< 48400	ug/Kg		3/30/2020 16:20

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

3-Nitroaniline	< 48400	ug/Kg		3/30/2020	16:20
4,6-Dinitro-2-methylphenol	< 96800	ug/Kg		3/30/2020	16:20
4-Bromophenyl phenyl ether	< 48400	ug/Kg		3/30/2020	16:20
4-Chloro-3-methylphenol	< 48400	ug/Kg		3/30/2020	16:20
4-Chloroaniline	< 48400	ug/Kg		3/30/2020	16:20
4-Chlorophenyl phenyl ether	< 48400	ug/Kg		3/30/2020	16:20
4-Nitroaniline	< 48400	ug/Kg		3/30/2020	16:20
4-Nitrophenol	< 48400	ug/Kg		3/30/2020	16:20
Acenaphthene	**39700**	ug/Kg	J	3/30/2020	16:20
Acenaphthylene	**59600**	ug/Kg		3/30/2020	16:20
Acetophenone	< 48400	ug/Kg		3/30/2020	16:20
Anthracene	**56300**	ug/Kg		3/30/2020	16:20
Atrazine	< 48400	ug/Kg		3/30/2020	16:20
Benzaldehyde	< 48400	ug/Kg		3/30/2020	16:20
Benzo (a) anthracene	**93300**	ug/Kg		3/30/2020	16:20
Benzo (a) pyrene	**42400**	ug/Kg	J	3/30/2020	16:20
Benzo (b) fluoranthene	**90000**	ug/Kg		3/30/2020	16:20
Benzo (g,h,i) perylene	**32800**	ug/Kg	J	3/30/2020	16:20
Benzo (k) fluoranthene	**64500**	ug/Kg		3/30/2020	16:20
Bis (2-chloroethoxy) methane	< 48400	ug/Kg		3/30/2020	16:20
Bis (2-chloroethyl) ether	< 48400	ug/Kg		3/30/2020	16:20
Bis (2-ethylhexyl) phthalate	< 48400	ug/Kg		3/30/2020	16:20
Butylbenzylphthalate	< 48400	ug/Kg		3/30/2020	16:20
Caprolactam	< 48400	ug/Kg		3/30/2020	16:20
Carbazole	< 48400	ug/Kg		3/30/2020	16:20

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Chrysene	**136000**	ug/Kg	3/30/2020	16:20
Dibenz (a,h) anthracene	< 48400	ug/Kg	3/30/2020	16:20
Dibenzofuran	**51000**	ug/Kg	3/30/2020	16:20
Diethyl phthalate	< 48400	ug/Kg	3/30/2020	16:20
Dimethyl phthalate	< 48400	ug/Kg	3/30/2020	16:20
Di-n-butyl phthalate	< 48400	ug/Kg	3/30/2020	16:20
Di-n-octylphthalate	< 48400	ug/Kg	3/30/2020	16:20
Fluoranthene	**233000**	ug/Kg	3/30/2020	16:20
Fluorene	**90600**	ug/Kg	3/30/2020	16:20
Hexachlorobenzene	< 48400	ug/Kg	3/30/2020	16:20
Hexachlorobutadiene	< 48400	ug/Kg	3/30/2020	16:20
Hexachlorocyclopentadiene	< 194000	ug/Kg	3/30/2020	16:20
Hexachloroethane	< 48400	ug/Kg	3/30/2020	16:20
Indeno (1,2,3-cd) pyrene	< 48400	ug/Kg	3/30/2020	16:20
Isophorone	< 48400	ug/Kg	3/30/2020	16:20
Naphthalene	**631000**	ug/Kg	3/30/2020	16:20
Nitrobenzene	< 48400	ug/Kg	3/30/2020	16:20
N-Nitroso-di-n-propylamine	< 48400	ug/Kg	3/30/2020	16:20
N-Nitrosodiphenylamine	< 48400	ug/Kg	3/30/2020	16:20
Pentachlorophenol	< 96800	ug/Kg	3/30/2020	16:20
Phenanthrene	**225000**	ug/Kg	3/30/2020	16:20
Phenol	< 48400	ug/Kg	3/30/2020	16:20
Pyrene	**177000**	ug/Kg	3/30/2020	16:20

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
2,4,6-Tribromophenol	NC	39 - 88.1		3/30/2020	16:20
2-Fluorobiphenyl	NC	42.5 - 81.1		3/30/2020	16:20
2-Fluorophenol	NC	39.8 - 77.3		3/30/2020	16:20
Nitrobenzene-d5	NC	40.1 - 77.1		3/30/2020	16:20
Phenol-d5	NC	41.7 - 76.6		3/30/2020	16:20
Terphenyl-d14	NC	41.6 - 96.8		3/30/2020	16:20

Method Reference(s): EPA 8270D
EPA 3546
Preparation Date: 3/28/2020
Data File: B45438.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 6570	ug/Kg		4/3/2020 20:36
1,1,2,2-Tetrachloroethane	< 6570	ug/Kg		4/3/2020 20:36
1,1,2-Trichloroethane	< 6570	ug/Kg		4/3/2020 20:36
1,1-Dichloroethane	< 6570	ug/Kg		4/3/2020 20:36
1,1-Dichloroethene	< 6570	ug/Kg		4/3/2020 20:36
1,2,3-Trichlorobenzene	< 16400	ug/Kg		4/3/2020 20:36
1,2,4-Trichlorobenzene	< 16400	ug/Kg		4/3/2020 20:36
1,2-Dibromo-3-Chloropropane	< 32900	ug/Kg		4/3/2020 20:36
1,2-Dibromoethane	< 6570	ug/Kg		4/3/2020 20:36
1,2-Dichlorobenzene	< 6570	ug/Kg		4/3/2020 20:36
1,2-Dichloroethane	< 6570	ug/Kg		4/3/2020 20:36
1,2-Dichloropropane	< 6570	ug/Kg		4/3/2020 20:36
1,3-Dichlorobenzene	< 6570	ug/Kg		4/3/2020 20:36
1,4-Dichlorobenzene	< 6570	ug/Kg		4/3/2020 20:36
1,4-Dioxane	< 65700	ug/Kg		4/3/2020 20:36
2-Butanone	< 32900	ug/Kg		4/3/2020 20:36
2-Hexanone	< 16400	ug/Kg		4/3/2020 20:36
4-Methyl-2-pentanone	< 16400	ug/Kg		4/3/2020 20:36
Acetone	< 32900	ug/Kg		4/3/2020 20:36
Benzene	**146000**	ug/Kg		4/3/2020 20:36
Bromochloromethane	< 16400	ug/Kg		4/3/2020 20:36
Bromodichloromethane	< 6570	ug/Kg		4/3/2020 20:36
Bromoform	< 16400	ug/Kg		4/3/2020 20:36

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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

Bromomethane	< 6570	ug/Kg	4/3/2020	20:36
Carbon disulfide	< 6570	ug/Kg	4/3/2020	20:36
Carbon Tetrachloride	< 6570	ug/Kg	4/3/2020	20:36
Chlorobenzene	< 6570	ug/Kg	4/3/2020	20:36
Chloroethane	< 6570	ug/Kg	4/3/2020	20:36
Chloroform	< 6570	ug/Kg	4/3/2020	20:36
Chloromethane	< 6570	ug/Kg	4/3/2020	20:36
cis-1,2-Dichloroethene	< 6570	ug/Kg	4/3/2020	20:36
cis-1,3-Dichloropropene	< 6570	ug/Kg	4/3/2020	20:36
Cyclohexane	< 32900	ug/Kg	4/3/2020	20:36
Dibromochloromethane	< 6570	ug/Kg	4/3/2020	20:36
Dichlorodifluoromethane	< 6570	ug/Kg	4/3/2020	20:36
Ethylbenzene	**82900**	ug/Kg	4/3/2020	20:36
Freon 113	< 6570	ug/Kg	4/3/2020	20:36
Isopropylbenzene	< 6570	ug/Kg	4/3/2020	20:36
m,p-Xylene	**69600**	ug/Kg	4/3/2020	20:36
Methyl acetate	< 6570	ug/Kg	4/3/2020	20:36
Methyl tert-butyl Ether	< 6570	ug/Kg	4/3/2020	20:36
Methylcyclohexane	< 6570	ug/Kg	4/3/2020	20:36
Methylene chloride	< 16400	ug/Kg	4/3/2020	20:36
o-Xylene	**18800**	ug/Kg	4/3/2020	20:36
Styrene	< 16400	ug/Kg	4/3/2020	20:36
Tetrachloroethene	< 6570	ug/Kg	4/3/2020	20:36
Toluene	**75200**	ug/Kg	4/3/2020	20:36
trans-1,2-Dichloroethene	< 6570	ug/Kg	4/3/2020	20:36

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.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02 **Date Sampled:** 3/24/2020
Matrix: Sludge **Date Received:** 3/26/2020

trans-1,3-Dichloropropene	< 6570	ug/Kg	4/3/2020	20:36
Trichloroethene	< 6570	ug/Kg	4/3/2020	20:36
Trichlorofluoromethane	< 6570	ug/Kg	4/3/2020	20:36
Vinyl chloride	< 6570	ug/Kg	4/3/2020	20:36

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**113**	80.8 - 134		4/3/2020	20:36
4-Bromofluorobenzene	**98.4**	54.9 - 132		4/3/2020	20:36
Pentafluorobenzene	**100**	85.8 - 114		4/3/2020	20:36
Toluene-D8	**96.6**	81 - 117		4/3/2020	20:36

Method Reference(s): EPA 8260C
EPA 5035A -- H
Data File: x69430.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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

Paint Filter Test

Analyte	Result	Units	Qualifier	Date Analyzed
Paint Filter Test	Fail	N/A		3/30/2020

Method Reference(s): EPA 9095B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02	**Date Sampled:**	3/24/2020
Matrix:	Sludge	**Date Received:**	3/26/2020

pH

Analyte	Result	Units	Qualifier	Date Analyzed
pH	7.15 @ 23.1 C	S.U.		3/30/2020 09:26

Method Reference(s): EPA 9045D

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Semi-Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,4-Dichlorobenzene	< 40.0	ug/L	7500		3/29/2020 16:02
2,4,5-Trichlorophenol	< 40.0	ug/L	400000		3/29/2020 16:02
2,4,6-Trichlorophenol	< 40.0	ug/L	2000		3/29/2020 16:02
2,4-Dinitrotoluene	< 40.0	ug/L	130		3/29/2020 16:02
Cresols (as m,p,o-Cresol)	< 80.0	ug/L	200000		3/29/2020 16:02
Hexachlorobenzene	< 40.0	ug/L	130		3/29/2020 16:02
Hexachlorobutadiene	< 40.0	ug/L	500		3/29/2020 16:02
Hexachloroethane	< 40.0	ug/L	3000		3/29/2020 16:02
Nitrobenzene	< 40.0	ug/L	2000		3/29/2020 16:02
Pentachlorophenol	< 80.0	ug/L	100000		3/29/2020 16:02
Pyridine	< 40.0	ug/L	5000		3/29/2020 16:02

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**91.1**	61.4 - 115		3/29/2020 16:02
2-Fluorobiphenyl	**95.3**	38.4 - 101		3/29/2020 16:02
2-Fluorophenol	**73.0**	12.7 - 105		3/29/2020 16:02
Nitrobenzene-d5	**85.0**	57.3 - 100		3/29/2020 16:02
Phenol-d5	**67.3**	10 - 107		3/29/2020 16:02
Terphenyl-d14	**87.7**	58.1 - 117		3/29/2020 16:02

Method Reference(s): EPA 8270D
EPA 1311 / 3510C
Preparation Date: 3/28/2020
Data File: B45421.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Mercury

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Mercury	< 0.00200	mg/L	0.2		4/1/2020 09:50

Method Reference(s): EPA 7470A
EPA 1311
Preparation Date: 3/31/2020
Data File: Hg200401A

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP Pesticides

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Chlordane	< 2.00	ug/L	30		3/30/2020 12:56
Endrin	< 1.00	ug/L	20		3/30/2020 12:56
gamma-BHC (Lindane)	< 1.00	ug/L	400		3/30/2020 12:56
Heptachlor	< 1.00	ug/L	8		3/30/2020 12:56
Heptachlor Epoxide	< 2.00	ug/L	8		3/30/2020 12:56
Methoxychlor	< 1.00	ug/L	10000		3/30/2020 12:56
Toxaphene	< 20.0	ug/L	500		3/30/2020 12:56

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Decachlorobiphenyl (1)	**134**	14.8 - 154		3/30/2020 12:56
Tetrachloro-m-xylene (1)	**77.0**	32.7 - 101		3/30/2020 12:56

Method Reference(s): EPA 8081B
EPA 1311 / 3510C

Preparation Date: 3/28/2020

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.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier:	SS.LOA.01.03242020		
Lab Sample ID:	201336-02A	**Date Sampled:**	3/24/2020
Matrix:	TCLP Extract	**Date Received:**	3/26/2020

TCLP RCRA Metals (ICP)

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
Arsenic	< 0.500	mg/L	5		3/30/2020 18:30
Barium	**0.456**	mg/L	100	J	3/30/2020 18:30
Cadmium	< 0.0250	mg/L	1		3/30/2020 18:30
Chromium	< 0.500	mg/L	5		3/30/2020 18:30
Lead	< 0.500	mg/L	5		3/30/2020 18:30
Selenium	< 0.200	mg/L	1		3/30/2020 18:30
Silver	< 0.500	mg/L	5		3/30/2020 18:30

Method Reference(s): EPA 6010C
EPA 1311 / 3005A
Preparation Date: 3/30/2020
Data File: 200330B

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 Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201336

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

Project Reference: Riverview

Sample Identifier: SS.LOA.01.03242020
Lab Sample ID: 201336-02A **Date Sampled:** 3/24/2020
Matrix: TCLP Extract **Date Received:** 3/26/2020

TCLP Volatile Organics

Analyte	Result	Units	Regulatory Limit	Qualifier	Date Analyzed
1,1-Dichloroethene	< 20.0	ug/L	700		4/3/2020 18:21
1,2-Dichloroethane	< 20.0	ug/L	500		4/3/2020 18:21
2-Butanone	< 100	ug/L	200000		4/3/2020 18:21
Benzene	**380**	ug/L	500		4/3/2020 18:21
Carbon Tetrachloride	< 20.0	ug/L	500		4/3/2020 18:21
Chlorobenzene	< 20.0	ug/L	100000		4/3/2020 18:21
Chloroform	< 20.0	ug/L	6000		4/3/2020 18:21
Tetrachloroethene	< 20.0	ug/L	700		4/3/2020 18:21
Trichloroethene	< 20.0	ug/L	500		4/3/2020 18:21
Vinyl chloride	< 20.0	ug/L	200		4/3/2020 18:21

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**107**	80.8 - 132		4/3/2020 18:21
4-Bromofluorobenzene	**99.7**	56.6 - 130		4/3/2020 18:21
Pentafluorobenzene	**103**	87.4 - 113		4/3/2020 18:21
Toluene-D8	**99.3**	82.2 - 115		4/3/2020 18:21

Method Reference(s): EPA 8260C
EPA 1311 / 5030C
Data File: x69424.D

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

Report Prepared Monday, April 6, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

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.
"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.

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, tern 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 wi 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 th 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.

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

1 of 2

PARADIGM

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		
CLIENT:	Inventum	CLIENT:	Same	LAB PROJECT ID: 201336
ADDRESS:	481 Carlisle Dr #202	ADDRESS:		Quotation #:
CITY / STATE / ZIP:	Herndon VA 20170	CITY / STATE / ZIP:		Email: john.black@inventum-eng.com
PHONE:	571 217 6761	PHONE:		
ATTN:	John Black	ATTN:		

PROJECT REFERENCE: Riverview

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

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCLP: SVOCs	VOCs	TCRA MET	MCL: PEST,	Flash Pt	Reactive CN	Reactive S	REMARKS	PARADIGM LAB SAMPLE NUMBER
03/24/2020	2:30		✓	SS.SAL.01.0324.2020	SD	3	✓	✓	✓	✓	✓	✓	✓	per email ran both samples for Full TCL P+Pest+Herb PCB Flash pH reactivity Paint Filter TCL SVOA/VOA mw 3/26/2020	01A
~~03/24/2020~~			✓	~~SS.SAL.02.0324.2020~~	SD										
03/24/2020	2:00		✓	SS.SAL.01.0324.2020	SD	3	✓	✓	✓	✓	✓	✓	✓		02A
~~03/24/2020~~			✓	~~SS.SAL.02.0324.2020~~	SD										

per jar label mw 3/26/2020 — per visual mw 3/24/2020 — after TCLP extract mw 3/26/2020 — ~~Sub sent out~~ ee mw 3/26/2020

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒ per email mw 3/26/2020	None Required	☐	None Required	☐
10 day	☐	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☒		
Rush 1 day	☐				
Date Needed _____ please indicate date needed: _____	☐	Other please indicate package needed: _____	☐	Other EDD please indicate EDD needed: _____	☐

Sampled By	[signature]	Date/Time	3/24/2020 5pm
Relinquished By	[signature]	Date/Time	3/24/2020 5pm
Received By	Molly Reid	Date/Time	3/26/2020 1030
Received @ Lab By	3°C iced	Date/Time	3/25/2020 16:01

Total Cost: _____ P.I.F. _____

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

See additional page for sample conditions.

Chain of Custody Supplement

Client: Inventum **Completed by:** Molly Nail

Lab Project ID: 201336 **Date:** 3/26/2020

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	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)		TOC VOA	X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X 3°C ice		Not
Comments			
Compliant Sample Quantity/Type	X		
Comments			

ANALYTICAL REPORT

Lab Number:	L2013557
Client:	Paradigm Environmental Services 179 Lake Avenue Rochester, NY 14608
ATTN:	Jane Daloia
Phone:	(585) 647-2530
Project Name:	201336
Project Number:	201336
Report Date:	04/02/20

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).

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

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2013557-01	SSWAL.01 03242020 201336-01	SLUDGE	Not Specified	03/24/20 14:30	03/26/20
L2013557-02	SSLOA.01 03242020 201336-02	SLUDGE	Not Specified	03/24/20 14:00	03/26/20

Project Name:	201336	**Lab Number:**	L2013557
Project Number:	201336	**Report Date:**	04/02/20

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.

Project Name: 201336 **Lab Number:** L2013557
Project Number: 201336 **Report Date:** 04/02/20

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.

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: Caitlin Walukevich

Title: Technical Director/Representative Date: 04/02/20

ORGANICS

PESTICIDES

Project Name: 201336 **Lab Number:** L2013557

Project Number: 201336 **Report Date:** 04/02/20

SAMPLE RESULTS

Lab ID: L2013557-01
Client ID: SSWAL.01 03242020 201336-01
Sample Location: Not Specified

Date Collected: 03/24/20 14:30
Date Received: 03/26/20
Field Prep: Not Specified

Sample Depth:
Matrix: Sludge
Analytical Method: 1,8151A
Analytical Date: 04/01/20 23:33
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/29/20 00:19

TCLP/SPLP Ext. Date: 03/27/20 21:58
Methylation Date: 03/31/20 20:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	69		30-150	A
DCAA	63		30-150	B

Project Name: 201336 **Lab Number:** L2013557

Project Number: 201336 **Report Date:** 04/02/20

SAMPLE RESULTS

Lab ID: L2013557-02
Client ID: SSLOA.01 03242020 201336-02
Sample Location: Not Specified

Date Collected: 03/24/20 14:00
Date Received: 03/26/20
Field Prep: Not Specified

Sample Depth:
Matrix: Sludge
Analytical Method: 1,8151A
Analytical Date: 04/01/20 23:51
Analyst: JMC

Extraction Method: EPA 8151A
Extraction Date: 03/29/20 00:19

TCLP/SPLP Ext. Date: 03/27/20 21:58
Methylation Date: 03/31/20 20:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
TCLP Herbicides by EPA 1311 - Westborough Lab							
2,4-D	ND		mg/l	0.025	0.001	1	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	47		30-150	A
DCAA	40		30-150	B

Project Name: 201336 **Lab Number:** L2013557

Project Number: 201336 **Report Date:** 04/02/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 04/01/20 22:19
Analyst: JMC
TCLP/SPLP Extraction Date: 03/27/20 21:58
Methylation Date: 03/31/20 20:52

Extraction Method: EPA 8151A
Extraction Date: 03/29/20 00:19

Parameter	Result	Qualifier	Units	RL	MDL	Column
TCLP Herbicides by EPA 1311 - Westborough Lab for sample(s): 01-02 Batch: WG1356162-1						
2,4-D	ND		mg/l	0.025	0.001	A
2,4,5-TP (Silvex)	ND		mg/l	0.005	0.001	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	61		30-150	A
DCAA	57		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
TCLP Herbicides by EPA 1311 - Westborough Lab Associated sample(s): 01-02 Batch: WG1356162-2 WG1356162-3									
2,4-D	95		79		30-150	18		25	A
2,4,5-TP (Silvex)	61		55		30-150	10		25	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	80		59		30-150	A
DCAA	68		68		30-150	B

INORGANICS
&
MISCELLANEOUS

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

SAMPLE RESULTS

Lab ID: L2013557-01
Client ID: SSWAL.01 03242020 201336-01
Sample Location: Not Specified

Date Collected: 03/24/20 14:30
Date Received: 03/26/20
Field Prep: Not Specified

Sample Depth:
Matrix: Sludge

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Reactive	ND		mg/kg	10	10.	1	03/31/20 02:48	03/31/20 03:57	125,7.3	KF
Sulfide, Reactive	ND		mg/kg	10	10.	1	03/31/20 02:48	03/31/20 03:50	125,7.3	KF

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

SAMPLE RESULTS

Lab ID: L2013557-02
Client ID: SSLOA.01 03242020 201336-02
Sample Location: Not Specified

Date Collected: 03/24/20 14:00
Date Received: 03/26/20
Field Prep: Not Specified

Sample Depth:
Matrix: Sludge

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Reactive	ND		mg/kg	10	10.	1	03/31/20 02:48	03/31/20 03:58	125,7.3	KF
Sulfide, Reactive	880		mg/kg	90	90.	9	03/31/20 02:48	03/31/20 03:50	125,7.3	KF

Project Name: 201336 **Lab Number:** L2013557

Project Number: 201336 **Report Date:** 04/02/20

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): 01-02 Batch: WG1356622-1										
Sulfide, Reactive	ND		mg/kg	10	10.	1	03/31/20 02:48	03/31/20 03:49	125,7.3	KF
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1356624-1										
Cyanide, Reactive	ND		mg/kg	10	10.	1	03/31/20 02:48	03/31/20 03:57	125,7.3	KF

Lab Control Sample Analysis

Batch Quality Control

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1356622-2								
Sulfide, Reactive	113		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1356624-2								
Cyanide, Reactive	69		-		30-125	-		40

Lab Duplicate Analysis

Batch Quality Control

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1356622-3 QC Sample: L2013856-01 Client ID: DUP Sample						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1356624-3 QC Sample: L2013856-01 Client ID: DUP Sample						
Cyanide, Reactive	ND	ND	mg/kg	NC		40

Project Name: 201336
Project Number: 201336

Lab Number: L2013557
Report Date: 04/02/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2013557-01A	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		REACTS(14),REACTCN(14)
L2013557-01X	Amber 1000ml unpreserved Extracts	A	NA		2.6	Y	Absent		HERB-TCLP*(14)
L2013557-01X9	Tumble Vessel	A	NA		2.6	Y	Absent		-
L2013557-02A	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		REACTS(14),REACTCN(14)
L2013557-02X	Amber 1000ml unpreserved Extracts	A	NA		2.6	Y	Absent		HERB-TCLP*(14)
L2013557-02X9	Glass 250ml/8oz unpreserved	A	NA		2.6	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name:	201336	**Lab Number:**	L2013557
Project Number:	201336	**Report Date:**	04/02/20

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.

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.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	201336	**Lab Number:**	L2013557
Project Number:	201336	**Report Date:**	04/02/20

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. 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.

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.

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	201336	**Lab Number:**	L2013557
Project Number:	201336	**Report Date:**	04/02/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	201336	**Lab Number:**	L2013557
Project Number:	201336	**Report Date:**	04/02/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
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, SM4500Cl-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.**

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.

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.

Serial_No:04022010:48

-2013557 161

11148

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

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:			
COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:	179 Lake Avenue	ADDRESS:			
CITY:	Rochester STATE: NY ZIP: 14608	CITY:	STATE: ZIP:	TURNAROUND TIME: (WORKING DAYS)	
PHONE:	FAX:	PHONE:	FAX:	STD	OTHER
PROJECT NAME/SITE NAME:		ATTN:	Reporting	ATTN: Accounts Payable	☐1 ☐2 ☐3 ☒5
		COMMENTS:	Please email results to reporting@paradigmenv.com	Date Due: 4/2/2020 for Data Report J Flags SDG closed ASP Cat B Package SW 846 MTS report as dry wt	Due 4/16/2020

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	TCLP Herb	Reactivity	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	3/24/2020	1430			SS WAL.01 03242020	Sludge	1	X	X	201336-01	
2	6	1400			SS LOA.01 03242020	Sludge	1	X	X	-02	
3											
4											
5											
6											
7											
8											
9											
10											

LAB USE ONLY BELOW THIS LINE

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

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments:		

Client

Sampled By	Date/Time	
Molly Vail	3/26/2020	1600
Relinquished By	Date/Time	
AS Fox NR	3/26/20	1620
Received By	Date/Time	
	3/27/20	0025
Received By	Date/Time	
Received @ Lab By	Date/Time	

Total Cost:

P.I.F. ☐