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PANAMERICAN

September 29, 2014

Mr. Wayne Bacon
148 Middlesex
Buffalo, New York

Subject: Phase II Environmental Site Assessment– 31 Tonawanda Street, Buffalo, New York

Dear Mr. Bacon:

Panamerican Environmental, Inc. (PEI) is pleased to provide you with this report which presents the Phase II Environmental Site Assessment (ESA) completed at 31 Tonawanda Street, Buffalo, New York.

INTRODUCTION AND BACKGROUND

Introduction and Purpose

PEI was contracted to conduct a focused Phase II Environmental Site Assessment (ESA) of the 31 Tonawanda Street property located in the City of Buffalo, New York (Figure 1). The scope of work for this Phase II ESA was based on the findings of a Phase I ESA completed on the property *("Phase I Environmental Site Assessment 31 Tonawanda Street; City of Buffalo, Erie County, New York" Completed by PEI for* Buffalo Niagara RIVERKEEPER and The Buffalo Niagara River Land Trust *in May 2011*). The purpose of the scope was to complete due diligence for the property.

Scope

The Phase II was conducted in general accordance with ASTM Standard E 1903-11 (Standard Practice for Environmental Site Assessments; Phase II Environmental Site Assessment Process). This standard covers a process for conducting a Phase II ESA of a parcel of property with respect to evaluating the presence or likely presence of substances defined as "hazardous substances" under the Comprehensive Environmental Response Compensation Act (CERCLA or Superfund), and petroleum products. The standard specifies procedures based on the scientific method to characterize property conditions in an objective, representative, repeatable, and defensible manner.

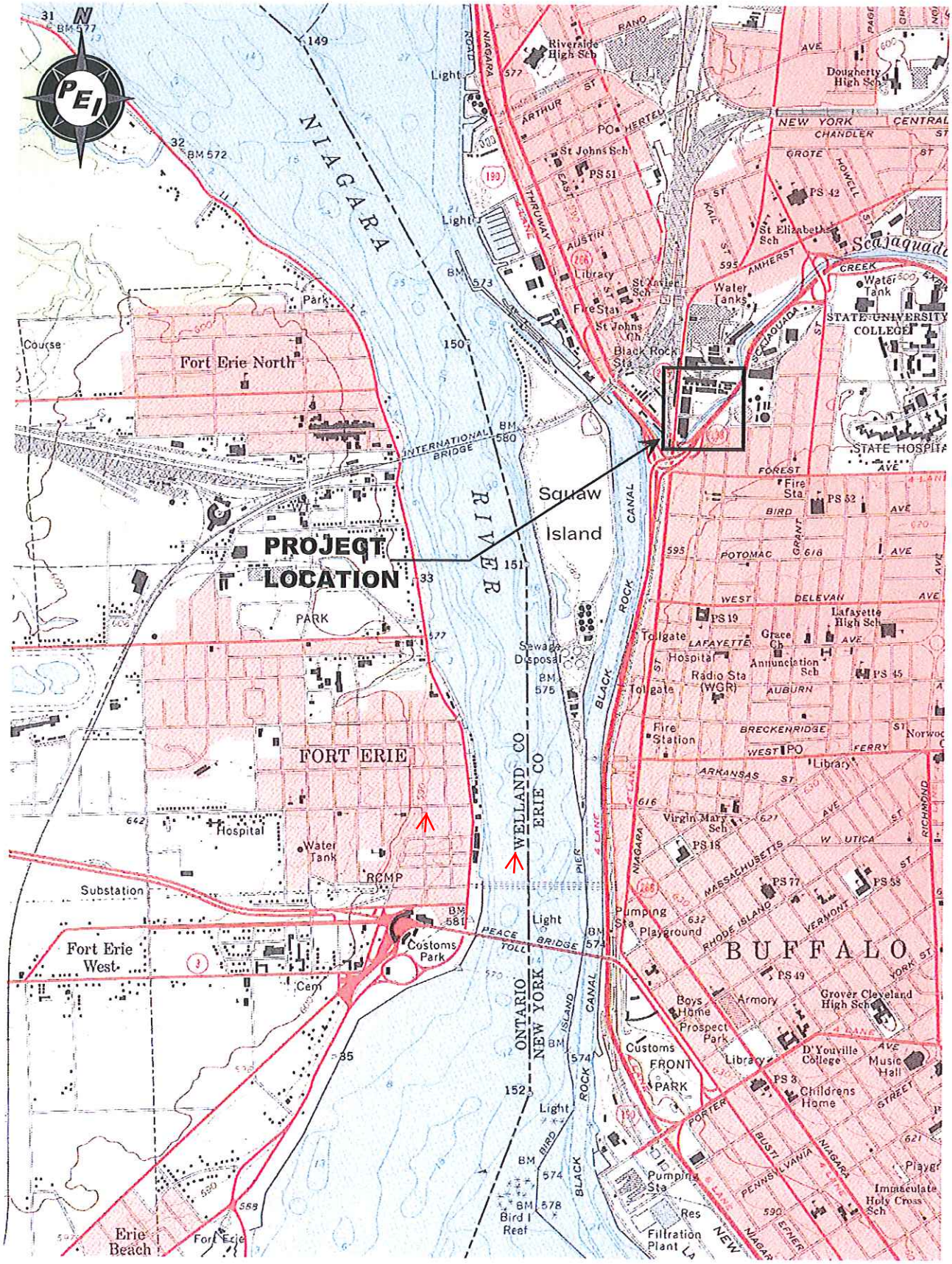


Figure 1. Project areas location in City of Buffalo, Erie County, New York *(USGS 7.5' Quadrangle, Buffalo NW, NY 1986 [1965]).*

The ASTM standard contemplates that the user (client) and the Phase II assessor (PEI) will consult to define the scope and objectives of the investigation in light of relevant factors, such as property history or a portion of the property or specific concerns to be investigated; the specific questions to be answered to satisfy the user's business needs; the degree of confidence needed or desired in the results; the degree of investigatory sampling needed to achieve such confidence and any time and resource constraints. As such Phase II scopes can vary. The standard does not require full site characterization in every instance, but may be used to conduct an investigation that is sufficient to meet the user's objective. This focused Phase II ESA was completed with a specific scope of work directed at the examination of subsurface conditions at the property and the collection of soil samples. The work was completed in two distinct phases; phase 1 was completed in April 2014 and consisting of the advancement of a series of geoprobe borings around the exterior of the building with one inside the building followed by phase 2 in September 2014 which included a series of borings to evaluate the lateral extent of contamination identified in one location during phase 1. Soil conditions were assessed and the physical characteristics of soil fill material and natural conditions were documented along with the potential for environmental impacts.

Background

The approximately 1.9-acre 31 Tonawanda Street property is located immediately adjacent to Scajaquada Creek in the Black Rock area of the City of Buffalo. The subject property contains an irregularly shaped, approximately 114,731 square foot, 1-3 story building. The property is bounded by Scajaquada Creek ("Creek") and the off ramp of the Scajaquada Expressway (State Highway 198) to the south and east; Tonawanda Street to the west and West Street to the north. The building complex occupies the majority of the parcel with some grass/vegetation/asphalt covered areas towards the Creek (Refer to Figures). The existing building complex was initially constructed in the early 1900's as Fedder Manufacturing Company (building permits indicate that brick factories were constructed in 1907-1915 at 53 Tonawanda Street).

The area and property have a long historic commercial/industrial use. Commercial/industrial use of the general area occurred in the early 1800's situated around Black Rock. It appears that many of the different industrial facilities along Tonawanda Street and the Creek may have operated in a somewhat symbiotic relationship revolving around common products or raw materials (clay pipes and bricks, metal manufacturing and machining, energy production). The industrial history of the property and adjacent properties has had a significant effect on the environmental impacts affecting both the area and the property.

In the late 1800s, the United States Electric Light and Power Company of Buffalo (later called the Buffalo General Electric Company) had a plant for arc lighting on the southern portion of the subject parcel and the Thompsons Shingle Mill was located on the northern portion. The electric company was an experimental station of the National High Temperature Furnace Company. At that time the property had a large coal shed. Sometime after 1900 the Fedders Manufacturing Company (under various names) occupied the parcel until it sold the complex to Black Rock Trade Center, Inc., in 2005. The Fedders complex was initially located on the subject parcel and eventually expanded across West Street to also occupy the adjacent northern parcel along Tonawanda Street (57 and 71 Tonawanda Street). Fedders began as a metalworking shop started by Theodore C. Fedders in 1896.

At first Fedders made milk cans and kerosene tanks for Standard Oil Co. and bread pans for National Biscuit Co. Shortly after the turn of the century Fedders converted the plant to making radiators for such automobile makers as Pierce-Arrow and the Thomas Five and, in time, other automobile makers as well. During World War I the company also made radiators for airplanes and manufactured appliances for heating and electrical refrigeration. During World War II Fedders received contracts to make links and clips for machine-gun belts and garand-rifle bullets. In 1949 Fedders family sold a majority interest in the firm to Frank J. Quigan, Inc. (world's leading manufacturer of handbag frames) and the company was renamed Fedders-Quigan Corp. In the late 1940's, Fedders-Quigan started making room air conditioners and electric water coolers. The company also made heaters, radiators, and radiator cores for Chrysler Corporation automobiles and home radiators, convectors, hot-water boilers and women's handbag frames. Fedders-Quigan shortened its name to Fedders in 1958. By 1964 Fedders products included air conditioners; automobile radiators, heater cores, and oil coolers (still principally for Chrysler); and heat-transfer equipment, including convectors, condensers, evaporators, and dehumidifiers. In 1987 Fedders spun off the compressor and automotive-components divisions into a company named NYCOR, Inc. This company remained under Fedders management until it sold the automotive-components business (FEDCO) in 1990. FEDCO manufactured automobile heating equipment.

The Fedders complex which expanded across West Street did have a history of using various chemicals, oils, solvents and other materials in their manufacturing process. Numerous investigations have been conducted on the various properties along the Creek mostly focused on those properties north of the subject parcel. .A review of these investigation reports indicated that potential environmental impacts exist at the various properties from past activities. Reports suggested that Fedders manufactured automotive

components including radiators, heaters, and transmission oil coolers. The report further suggested that processes at the property included metal stamping, soldering, brazing, welding, painting, acid washing and degreasing. Industrial wastes were reported to include solder dross, degreasing still bottoms including trichloroethylene (TCE) and tetrachloroethene, petroleum-based lubricating fluids and other products and wastes. Additionally, the adjacent/nearby industrial properties were significant potential contributors to area environmental impacts which effected both the Creek sediments and fill along the creek. These included: **Halls Brick Yard** (manufacture of fire-brick - this plant operated numerous kilns and a large flue house adjacent to the subject property); **Pratt & Lambert** - had two locations including a paint and resin manufacturing facility at 73-75 Tonawanda Street and a lacquer plant facility located at 1451 (1409) West Street immediately adjacent across the Creek; **The Iroquois Gas Corporation (MGP facility) -** a large Manufactured Gas Plant (MGP); A second MGP facility was located west of the property along the Niagara River. The **USHCO, U. S. Hame Co. Pratt & Letchworth History** - a very large iron and steel works located on 38-acres north of the subject property along Tonawanda Street and the Creek. The Pratt & Letchworth and associated facilities included large foundry and machine shops. Documentation from between 1949 and 1965 indicates that approximately 19,000 tons of foundry sand, 16,000 tons of slag and cement and furnace brick waste was land filled on-site and along the banks of the Creek. It is important to note that much of the fill on the subject property appears to include foundry sand. A review of investigation reports completed on the adjacent properties indicates that metals, semi-volatiles and solvents are associated with creek sediments, groundwater and soils along the creek.

The following potential recognized environmental conditions were identified in the Phase I report:

- Foundry and machine shop operations were located in close proximity to the subject property. Environmental contamination associated with these facilities include elevated levels of lead and other metals in near and subsurface soils and wastes associated with slag/foundry sands such as phenols. Other contaminants, including solvents and petroleum products are typically associated with drummed materials. It is possible that releases from these facilities have impacted area surface and near-surface soils above “normal” urban background with regard to metals and polycyclic aromatic hydrocarbons (PAH).
- A former MGP plant was located east and nearby the plant during the early 1900’s until the 1950’s. A second MGB plant was located west along the River during the early 1900’s. Remedial actions at the adjacent Iroquois Gas/Westwood Pharmaceutical Site found a highly concentrated oily material adjacent to the

FEDCO property in 1998.

- The property and/or adjacent Fedders property have a history of chemical and petroleum use and storage. Fedders manufactured automotive components including radiators, heaters, and transmission oil coolers and included operations such as metal stamping, soldering, brazing, welding, and painting, acid washing and degreasing. Industrial wastes were reported to include solder dross, degreasing still bottoms including trichloroethylene (TCE) and tetrachloroethene, petroleum-based lubricating fluids and other products and wastes. A number of investigation reports suggest industrial environmental concerns with adjacent properties including chemical and petroleum tank removal and remediation. Past investigations on adjacent/nearby properties concluded that volatile and semi-volatile organic compounds and metal compounds were found across the site in surface and subsurface soil, sediments and groundwater.
- It is probable that due to the nature of the industrial use of the facility, small spills of materials have occurred over the lifetime of the facility which may have migrated to floor drains and or through cracks in the cement floor. Based on property and adjacent/nearby property use history, PEI believes potential vapor concerns exist.
- A 1950 Sanborn Map indicates that a small gasoline tank was located in the northeast portion of the property. City of Buffalo Fire and permit records indicate tanks associated with Fedders listed under 57 Tonawanda Street. A 1943 City Department of Fire record suggests that a 550-gallon UST was located in front of 17 Tonawanda Street at Fedders.
- The property may contain fill of unknown quality

SOIL ASSESSMENT FIELD INVESTIGATION

Phase 1 Subsurface Assessment

PEI completed phase 1 of the subsurface assessment in April 2014. The scope included: advancing soil borings using Geoprobe® direct push technology; soil screening using a total organic vapor monitor/photoionization detector (PID); and limited sampling to investigate subsurface conditions at the property. The soil borings during phase 1 were advanced with a truck mounted Geoprobe system. A skid-steer mounted Geoprobe unit was used during phase 2 to access tight areas. The use of direct push technology allows for rapid sampling, observation and characterization. The Geoprobe technology uses a four-foot MarcoCore sampler with disposable polyethylene sleeves for observation and sampling. Soil cores are retrieved in four-foot sections and cut for observation, screening and sampling. A total of ten (10) Geoprobe borings were advanced in an array around the west and east perimeter of 31 Tonawanda Street structure (refer to Figure 2a and 2b).

Figure 2a: Approximate Location of Borings and Sample Locations West Side of Building

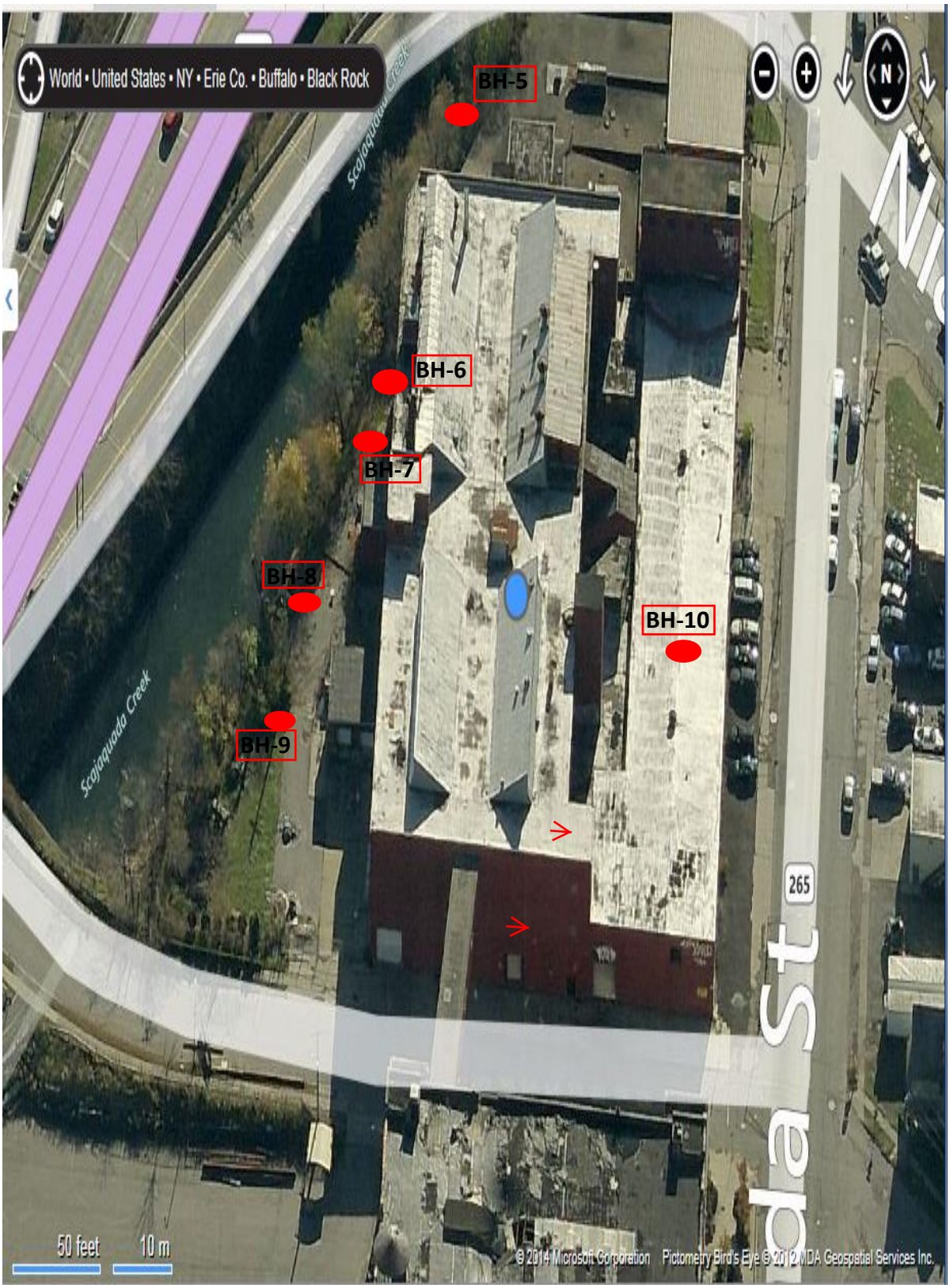


Figure 2b: Approximate locations of Borings/Samples East Side/Inside Building

Borings were advanced to an average depth of 12 feet below ground surface (refer to Table 1 – Soil Description)

At each boring location, continuous soil sampling was conducted using the Geoprobe® with a two-inch diameter sampler with four-foot lengths resulting in two to three distinct sample cores (i.e., 0-4', 4-8', 8-12'). Also, at each location, visual observations were recorded and field screening of soil for volatile organic compound (VOC) concentrations using the PID (MiniRae with a 10.2 eV Lamp) was completed (refer to Table 1).

The field observations and PID readings indicated that silty clay from 1-15 feet below ground surface (bgs) under an asphalt layer exists along Tonawanda Street while sand (possibly foundry sand) and silt to about 12-16 feet bgs exists along the creek side of the property especially on the southeastern portion. Some clay exists under the asphalt areas in the northeast portion of the property. The zone at 12-16 feet was observed to be wet to very wet especially in the southeast portion of the property and this may correspond to the bottom of the creek level.

Elevated PID readings and odors (strong but indistinguishable) were observed at only two locations; borehole BH-5 at a depth of 8-16 feet bgs and in borehole BH-7 (odor only) at a depth of 9-12 feet bgs. Borehole BH-5 was located in the southeast portion of the property along the creek and borehole BH-7 was located in the northeast portion of the property adjacent to the creek (refer to Figures 2a and 2b).

A total of three (3) soil samples were collected for laboratory analysis. These included: a sample from the 9-12 foot depth bgs from borehole BH-5 (odor and elevated PID of 400+ ppm); a sample from borehole BH-7 from the 9-12 foot depth bgs (odor); and a soil sample from BH-8 at 5-8 feet bgs (no odor or elevated PID readings). The soil samples were submitted to Paradigm Environmental Services, Inc. laboratory for analysis. The requested analysis was for the full NYSDEC Part 375 Brownfields parameter list – metals, volatile and semi-volatile organic compounds, pesticides and PCBs minus hexavalent chromium and Silvex.

Phase 2 Subsurface Assessment

During the phase 1 portion of ESA subsurface investigation elevated concentration levels of Trichloroethylene (TCE) were detected along with other compounds in boring BH-5 at a depth of between 9 and 12 feet bgs (see attached figures and tables). Based on discussions with the client and client's attorney Mr. Craig Slater, Esq, it was decided to complete a supplemental soil assessment to assess the extent of impact to soils in the

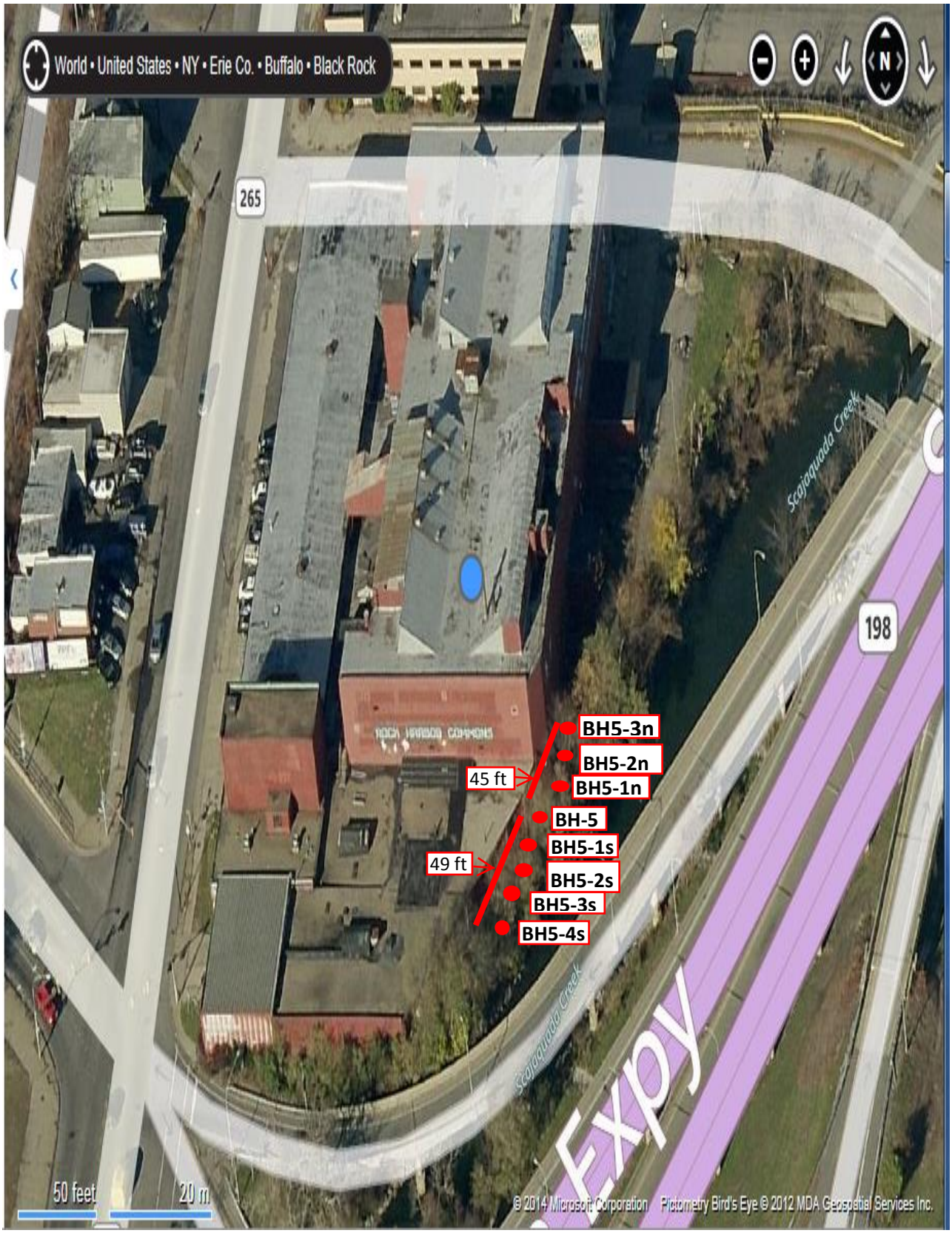


Figure 2C: Location of Borings/Samples - September 2014 Program

Table 1
31 TONAWANDA STREET SITES PHASE II ESA SOIL DESCRIPTION

BORINGS	BH-1	BH-2	BH-3	BH-4	BH-5	BH-6
Total Depth	15 feet	8 feet	8 feet	8 feet	16 feet	5 feet
General Geology	0-0.5 – cement, sand 0.5-2 ft – dark brown silty clay 2-4 ft – light brown silty clay 4-6 ft – grey-brown silty clay - moist 6-8 ft – light brown silty clay 8-11 ft – dark brown silty, sandy clay 11-13 - black silty clay 12-15 – greenish brown silty clay PID - background	0-0.5 ft –asphalt /black coal 0.5-3 ft –silty sand with gravel fill 3-4 ft – brown-red silty clay 4-6 ft – brown silty clay 6-8 ft- brown silty clay with blackchert/gravel 8-10 ft- brown silty clay – moist-wet 11-12 ft- dark brown silty clay PID - Background	0-0.5 ft –asphalt over cement and gravel 0.5-1 ft –black sandy gravel fill 1-4 ft – brown silty clay moist 4-8 ft- light brown silty clay PID - Background **Sample:** **1 soil sample from 0.5-1 foot interval – did not have analyzed**	0-0.5 ft –asphalt over cement and gravel 0.5-2 ft –light brown-red silty clay 2-4 ft – brown-grey silty clay moist 4-8 ft- brown-red silty clay - stiff PID - Background	0-0.5 – black gravelly, sandy, silt fill 0.5-3 ft – silty clay with brick 3-4 ft – black sandy silt fill with sandstone 4-6 ft – dark sand – possibly foundry sand 6-7 ft – red-brown silty clay 7-8 ft – black gravely silt - wet 8-12 – red-black silty, gravely sand. Odor 12-16 – black silty clay – wet, with sheen and odor PID – 50-400ppm at 8-16 feet 1 soil sample from 9-12 interval	0-0.5 ft –silt fill and stone 0.5-4 ft - brown-red silty clay 4-5 ft –brown-red silty clay 5 foot refusal - cement PID - Background
PID Readings (ppm)	No readings above background	No readings above background	No readings above background	No readings above background	400ppm at 8-12 feet 60ppm at 12-16 feet	No readings above background
Odor	No odor noticed	No odor noticed	No odor noticed	No odor noticed	Strong but indistinguishable odor	No odor noticed

Table 1 continued
31 TONAWANDA STREET SITES PHASE II ESA SOIL DESCRIPTION

BORINGS	BH-7	BH-8	BH-9	BH-10
Total Depth	12 feet	9.5 feet	12 feet	12 feet
General Geology	0-0.5 – silt fill 0.5-5 ft – red-brown silty clay 5-6 ft – black sand possibly foundry sand 6-7 ft – cement 7-9 ft – red (rust)-black sandy gravely silt fill 9-11 – black silty clay 11-12 – black sandy, silty clay – very slight undistinguishable odor PID – background 1 soil sample from 9-12 interval	0-0.5 – asphalt and gravel 0.5-1 ft – sandy silt fill 1-3.5 ft – red-brown clay 3.5-5 ft – dark brown sand 5-7.5 ft – red-black sandy gravely silt fill with slag 7.5-8 – brick, stone 8-9.5 – silty clay – black at 9.5 PID – background 1 soil sample at 5-8 feet	0-3 ft – silty, sandy clay fill 3-3.5 ft – brick 3.5-4 ft – sandy silty fill with wood, stone 4-8 ft – clay intermixed with sand and stone. Brick at 8 feet 8-10 ft – sandy, silty clay with stone; moist 10-12 – silty grey clay; moist PID – background	0-.5 ft – cement floor .5-5 ft – sand, stone, slag fill with some clay 5-6 ft – red-brown clay; tight 6-8 ft – brown-grey silty clay 8-10 ft – red-brown clay 10-12 ft – light grey clay PID – background 1 soil sample at 3-5 feet – did not analyze
PID Readings (ppm)	No readings above background	No readings above background	No readings above background	No readings above background
Odor	very slight undistinguishable odor at 9-12 feet	No odor noticed	No odor noticed	No odor noticed

Table 2
31 TONAWANDA STREET SITES PHASE II FOLLOW-UP

BORINGS	BH-5	BH5-1S	BH5-2S	BH5-3S	BH5-4S
		10 feet south of BH-5	20 feet south of BH-5	30 feet south of BH-5	49 feet south of BH-5
Total Depth	16 feet	16 feet	12 feet	8.2 feet	12 feet
General Geology	0-0.5 – black gravelly, sandy, silt fill 0.5-3 ft – silty clay with brick 3-4 ft – black sandy silt fill with sandstone 4-6 ft – dark sand – possibly foundry sand 6-7 ft – red-brown silty clay 7-8 ft – black gravely silt - wet 8-12 – red-black silty, gravely sand. Odor 12-16 – black silty clay – wet, with sheen and odor PID – 50-400ppm at 8-16 feet 1 soil sample from 9-12 interval	0-0.5 – black gravelly, sandy, silt fill possible foundry sand 0.5-3 ft – silty soil 3-4 ft – black sandy silt possible foundry sand 4-7 ft – sand – possibly foundry sand, brick, stone 7-8 ft – fill - moist 8-12 – black silty, sand. Odor – PID - 300+ ppm 12-16 – black sandy silt – wet, with odor- PID – 160+	0-1 – black gravelly, sandy, silt fill possible foundry sand 1-2 ft – light brown sand 2-4 ft – fill – brick, cement, black sand 4-8 ft – fill – black sand, brick, glass, stone 8-12 – black sandy, clayey silt. Odor – PID - 126+ ppm 12-16 – no recovery – very wet	0-0.5 – black gravelly, sandy, silt fill possible foundry sand 0.5-3 ft – fill – brick, brown silty sand, ash 3-8 ft – fill – black silty sand and brick 8.2 – refusal – wood Moved 2 feet south and refusal again at 8.2 feet – PID 6-7 ppm	0-8 – black sandy, silt fill 8-12 – silty, gravely sand – wet PID – 3-4ppm at 8-12 feet
PID Readings (ppm)	400ppm at 8-12 feet 60ppm at 12-16 feet	300+ ppm at 8-12 feet 160+ ppm at 12-16 feet	126+ ppm at 8-12 feet	6-7 ppm at refusal/wood at 8.2 feet	3-4ppm at 8-12 feet
Odor	Strong but indistinguishable odor	indistinguishable odor	indistinguishable odor	No odor noticed	No odor noticed

Table 2 continued
31 TONAWANDA STREET SITES PHASE II ESA SOIL DESCRIPTION

BORINGS	BH5-1N	BH5-2N	BH5-3N
	15 feet north of BH-5	30 feet north of BH-5	45 feet north of BH-5
Total Depth	9.5 feet	16 feet	12 feet
General Geology	0-1 – black sandy silt fill – possibly foundry sand 1-3 ft – brown silty clay 3-4 ft – black sand and brick 4-7.5 ft – red-black sand and gravel 7.5-8 ft – sandy silt - moist 8-9.5 – sand and gravel – very wet 9.5 refusal Odor and elevated PID	0-1 – black sandy silt fill – possibly foundry sand 1-3.5 ft – brown silty clay 3.5-4 ft – brown sand 4-7.5 ft – red-black sand and gravel 7.5-8 ft – sandy silt - moist 8-12 – silty sand with some clay 12-16 – no recovery PID – 1-3 ppm at 12-16 feet 1 soil sample at 12-16 feet	0-1 – black sand and gravel fill – possibly foundry sand 1-4 ft – brown silty clay 4-7 ft – silty sand fill 7-8 ft – silty clay with brick, moist 8-12 – black sandy silt with clay – odor PID – 0 ppm Coal tar odor at 8-12 feet
PID Readings (ppm)	Elevated – high – ppm not recorded	1-3 ppm at 12-16 feet	No readings above background
Odor	undistinguishable odor at 8-9 feet	slight odor noticed	Coal tar odor

vicinity of BH-5. The objective of this follow-up phase 2 investigation was to assess the radially extent and better define the concentration of TCE around borehole BH-5 outside the adjacent structure.

The follow-up phase 2 of the subsurface assessment was completed in September 2014. The scope included: advancing soil borings using Geoprobe® direct push technology; soil screening using a total organic vapor monitor/photoionization detector (PID); and limited soil sampling in a radial grid pattern outward from borehole BH-5. The pattern around BH-5 was limited to the north and south directions because the Creek was immediately adjacent to the east and the building was immediately adjacent to the west (refer to photographs and Figure 2c).

A total of seven (7) borings were advanced in a north and south direction from the phase 1borehole BH-5; four (4) borings south of BH-5 and three (3) north of BH-5 (see attached figure 2c). Three of the four southern borings (BH5-1S thru BH5-3S) were advanced at ten foot intervals south from BH-5. The fourth boring (BH5-4S) was advanced nineteen (19) feet south of BH5-3S just south of an outside stairway into the building. The soft soils at the top of the creek bank and edge of the stairway required the construction of a ramp to accommodate access around the stairs. Borehole BH5-4S was approximately forty-nine (49) feet south of BH-5 and just south of the stairway. Borings BH5-1N through BH5-3N were completed in a series of 15 foot intervals north of BH-5 with borehole BH5-3N being approximately forty-five (45) feet north of BH-5 (just past the bend in the building – refer to Photographs and Figure 2c). Each boring was advanced between 12 and 16 feet bgs to a soil zone that was wet and most likely corresponded to the adjacent Creek bottom (refer to Table 2 – Soil Description).

At each boring location, continuous soil sampling was conducted using the Geoprobe® with a two-inch diameter sampler with four-foot lengths resulting in two to three distinct samples. Also, at each location, visual observations were recorded and field screening of soil for volatile organic compound (VOC) concentrations using the PID (MiniRae with a 10.2 eV Lamp) was completed (refer to Table 2). Lower PID readings were recorded (8-12 foot level) in each boring as they were installed away from BH-5 as follows:

BH-5 – 400 ppm (odor)
BH-1S – 300 ppm (odor)
BH-2S – 126 ppm (odor)
BH-3S – 6-7 ppm
BH-4S – 3-4 ppm

To the north PID recordings at 12-16 feet indicated:

BH-2N – 1-3 ppm (odor)
BH-3N – 0 ppm (odor)

The field observations were consistent with the phase 1 findings. Fill consisting of sand (possibly foundry sand) and silt to about 12-16 feet bgs exists along the creek side of the property in the southeastern portion. The zone at between 8-16 feet was observed to be wet to very wet (this may correspond to the bottom of the creek level). Additionally, an odor in BH5-3N was different from the other borings and resembled a coal tar odor.

One (1) soil samples was collected for laboratory analysis from BH5-2N at a depth of 12-16 feet bgs. The purpose was to determine if elevated solvent concentrations existed in boreholes where screening and observations suggested little impact. The intent was to confirm the aerial extent of the solvent impact.

The soil sample was submitted to Paradigm Environmental Services, Inc. laboratory for analysis. The requested analysis was for volatile organic compounds and coal tar constituents (added based on the odor in BH5-3N).

A description of soil is presented in Tables 1and 2. At completion, all probe holes were filled with indigenous soil. Photographs of field activities are contained in Attachment A. Prior to conducting the subsurface investigation, all utilities were located and areas identified. The locations of the soil borings were field located and were subject to accessibility and the location of underground utility lines. All soil borings were advanced at a minimum distance of 2.5 feet away from marked utilities, where present, to reduce the possibility of accidentally damaging an underground line.

Photoionization Detection (PID)

During the drilling process, field screening of volatile organic compound (VOC) concentrations was performed using a Photo Ionization Detector (PID) (PID MiniRae 2000). The PID is used mostly to detect VOCs in soil, sediment, air and water. It is often used to detect contaminants in ambient air and soil during drilling activities and during spills to identify potential problems. Results are summarized in Tables 1 and 2. As described, elevated PID levels were observed only in borehole BH-5 and boreholes arrayed north and south of BH-5 at the specific depths identified. None of the other boreholes (Phase 2 subsurface investigation) had VOC readings above background.

The PID is a portable vapor and gas detector that detects a variety of organic compounds. Photo ionization occurs when an atom or molecule absorbs light of sufficient energy to cause an electron to leave and create a positive ion. The PID is comprised of an ultraviolet lamp that emits photons that are absorbed by the compound in an ionization chamber. Ions (atoms or molecules that have gained or lost electrons and thus have a net positive or negative charge) produced during this process are collected by electrodes. The current generated provides a measure of the analyte concentration. A PID sensor works differently than other sensors. The PID contains a lamp that is rated to a specific ionization potential measured in electron volts (eV). Some common lamps available are 9.8 eV, 10.6 eV, and 11.7 eV. A 10.6 eV lamp was used on this project. When the lamp ignites and a gas molecule passes through the light emitted from it, the molecule is ionized (if the ionization potential of the molecule is less than the ionization potential of the lamp) or nothing happens (if the molecule's ionization potential is above that of the lamp). Once ionized, positive and negative ions are collected on electrodes, which produce a signal, which is directly proportional to the amount of ions present at the electrodes. The signal is then displayed in parts per million on the instrument display.

Limitations of PIDs - Because a PID ionizes any molecule with an ionization potential less than the ionization potential of its lamp, the detector is not specific to any gas. The detector itself measures the amount of positive and negative ions detected on the electrodes. These ions can come from any compound that was ionized. Unless a specific VOC is known to be the only VOC present in a certain area or to be a byproduct of a specific process, the PID will be able only to accurately inform the user that a compound has been ionized. It will not be able to distinguish what the compound actually is.

Another limitation of a PID is that many of them respond to humidity. If a high-humidity sample is taken, the water vapor can cause false positive readings. Also, a PID is not suitable for the detection of semi-volatile organic compounds or metals and only indicates if volatile compounds may be present. A sample analyzed at a laboratory is necessary to identify any specific compounds.

Soil Analytical Results

Analytical results from the soil sampling program are summarized in Table 3. The table presents a summary of the soil sample analytical results data for all detected compounds and provides a comparison with the New York State Department of Environmental Conservation (NYSDEC) Final Restricted Use Soil Cleanup Objectives (SCOs) as presented in 6 NYCRR Part 375-6.8 (b). The complete set of soil analytical data is provided in Appendix B and is discussed below.

TABLE 3 - 31 TONAWANDA STREET - PHASE 2 ESA SOIL SAMPLE ANALTICAL RESULTS SUMMARY							
Sampling Program	**PEI - Phase 2 ESA SOIL BORING SAMPLING PROGRAM**						
Sample Number	**BH 5**	**BH 5-3N**	**BH 7**	**BH 8**	**NYSDEC**	**NYSDEC**	**NYSDEC**
Sample Date	**4/11/2014**	**9/9/2014**	**4/11/2014**	**4/11/2014**	**PART 375**	**PART 375**	**PART 375**
Sample depth (bgs)	**9' - 12'**	**11' - 12'**	**9' - 12'**	**5' - 8'**	**Residential**	**Restrict Res**	**Commercial**
Compounds	**ppm**	**ppm**	**ppm**	**ppm**	**(a)**	**(b)**	**(c)**
Metals							
Mercury	**1.2**	NA	0.51	0.04	0.81	1	2.8
Arsenic	12.10	NA	11.5	8.5	16	16	16
Barium	340.0	NA	137	34.4	350	400	400
Beryllium	ND	NA	0.84	ND	14	72	590
Cadmium	2.40	NA	ND	0.94	2.5	4.3	9.3
Chromium	28.5	NA	28.8	**202 (a)(b)**	36	180	1500
Copper	**911 (a)(b)(c)**	NA	**747 (a)(b)(c)**	**9550 (a)(b)(c)**	270	270	270
Lead	**876 (a)(b)**	NA	263	130	400	400	1000
Manganese	200	NA	502	**7780 (a)(b)**	2000	2000	10000
Nickel	20.9	NA	36.3	14.3	140	310	310
Selenium	ND	NA	ND	5.8	36	180	1500
Silver	ND	NA	ND	ND	36	180	1500
Zinc	1410	NA	202	518	2200	10000	10000
PCBS							
PCBS	ND	NA	ND	ND	1	1	1
Pesticides							
4,4-DDT	0,009	NA	ND	ND	1.7	N	47.0
4,4 DDD	0.005	NA	ND	ND	2.6	13	92.0
4,4-DDE	0.01	NA	ND	ND	1.8	8.9	62.0
Endrin Aldehyde	0.021	NA	ND	ND	N/A	N/A	N/A
alpha-BHC	0.009	NA	ND	ND	0.097	0.48	3.4
beta BHC	0.009	NA	ND	ND	0.072	0.36	3
delta BHC	0.021	NA	ND	ND	100	100	500
Endosulfan I	0.005	NA	ND	ND	4.8	24	200
Endosulfan Ii	0.009	NA	ND	ND	4.8	24	200
Endosulfan Sulfate	0.01	NA	ND	ND	4.8	24	200
Endrin	0.007	NA	ND	ND	2.2	11	89.00
Endrin Ketone	0.011	NA	ND	ND	N/A	N/A	N/A
cis-Chlordane	0.014	NA	ND	ND	N/A	N/A	N/A
Dieldrin	0.011	NA	ND	ND	0.039	0.2	1.40
gamma-BHC	0.013	NA	ND	ND	0.28	1.3	9.20
Heptachlor	0.026	NA	ND	ND	0.42	2.1	15.00
Heptachlor-Chlordane	0.009	NA	ND	ND	N/A	N/A	N/A
VOCs							
cis-1,2-Dichloroethene	**880 (a(b)(c)**	0.026	ND	0.023	59	100	500
1,1,2,2-Tetrachloroethane	ND	0.041	ND	ND	NA	NA	NA
1,1,2-Trichloroethane	ND	0.037	ND	ND	NA	NA	NA
1,2,4-Trimethylbenzene	ND	0.048	ND	ND	47	52	190
1,3,5-Trimethylbenzene	ND	0.041	ND	ND	47	52	190
1,4-dioxane	ND	1.08	ND	ND	9.8	13	130
2-Butanone	ND	0.1	ND	ND	NA	NA	NA
Acetone	ND	0.4	ND	ND	100	100	500
Isopropylbenzene	ND	0.014	ND	ND	NA	NA	NA
m,p-Xylene	ND	0.026	ND	ND	100	100	500
Methylcyclohexane	ND	0.022	ND	ND	NA	NA	NA
Naphthalene	ND	0.098	ND	ND	100	100	500
n-Butylbenzene	ND	0.035	ND	ND	NA	NA	NA
o-Xylene	ND	0.03	ND	ND	100	100	500
Trichloroethene	**6960 (a)(b)(c)**	0.17	ND	0.17	10	21	200
SVOCs							
Acenaphthene	6.2	39.2	ND	ND	100	100	500
Acenaphthylene	ND	12.8	ND	ND	100	100	500
Anthracene	ND	60.7	ND	ND	100	100	500
Benzo(a)anthracene	**6.02 (a)(b)(c)**	**48.9 (a)(b)(c)**	ND	ND	1	1	5.6
Benzo (a) pyrene	ND	**47.4 (a)(b)(c)**	ND	ND	1	1	1
Benzo(b)fluoranthene	**5.7 (a)(b)(c)**	**24.2 (a)(b)(c)**	ND	ND	1	1	5.6
Benzo (g,h,i) perylene	ND	19.5	ND	ND	100	100	500
Benzo (k) fluoranthene	ND	**25.3 (a)(b)**	ND	ND	1	3.9	56
Chrysene	**7.74 (a)(b)**	**53.2 (a)(b)**	ND	ND	1	3.9	56
Fluoranthene	11	83.1	ND	0.45	100	100	500
Fluorene	ND	36	ND	ND	100	100	500
Indeno (1,2,3-cd) pyrene	ND	**16.6 (a)(b)(c)**	ND	ND	0.5	0.5	5.6
Phenanthrene	17.1	**142 (a)(b)**	ND	0.34	100	100	500
Pyrene	15	**137 (a)(b)**	ND	0.36	100	100	500

ND - Non-Detect NA - Not Available or Not analyzed for

Shaded Value - Exceeds Part 375 SCOs

Volatile Organic Compounds (VOCs)

A number of VOCs were identified in the soil sample from BH-2N and two VOCs identified in soil sample BH-8; however, none of the VOC concentrations were above Part 375 Soil Cleanup Objectives (SCO). Two VOCs exceeded Part 375 Commercial SCO in the BH-5 soil sample as follows:

BH 5		
Contaminant	**Lab Value**	**NYSDEC SCO**
Cis-1,2-dichloroethene	880 ppm	500 ppm Commercial
Trichloroethene	6,960 ppm	200 ppm Commercial

Semi-Volatile Organic Compounds (SVOCs)

No SVOCs were detected in soil sample BH-7 and only three SVOCs were detected in soil sample BH-8 at concentration levels well below NYSDEC SCO. A number of SVOCs, consisting primarily of polynuclear aromatic hydrocarbons (PAHs), were detected in the soil samples from BH-5 and BH-2N with several compound concentrations exceeding Restricted Residential and/or Commercial SCOs as follows:

BH 5		
Contaminant	**Lab Value**	**NYSDEC SCO**
Benzo(a)anthracene	6.02 ppm	5.6 ppm Commercial
Benzo(b)fluoranthene	5.7 ppm	5.6 ppm Commercial
Chrysene	7.74 ppm	3.9 ppm Restrict. Residential

BH5-2N		
Contaminant	**Lab Value**	**NYSDEC SCO**
Benzo(a)anthracene	48.9 ppm	5.6 ppm Commercial
Benzo(a)pyrene	47.4 ppm	1.0 Commercial
Benzo(b)fluoranthene	24.2 ppm	5.6 ppm Commercial
Chrysene	53.2 ppm	3.9 ppm Restrict. Residential
Phenanthrene	142 ppm	100 ppm Restrict. Residential
Pyrene	137 ppm	100 ppm Restrict. Residential
Indeno(1,2,3-cd)pyrene	16.6 ppm	5.6 ppm Commercial
Benzo(k)fluoranthene	25.3 ppm	3.9 ppm Restrict. Residential

A number of SVOCs consisting primarily of polynuclear aromatic hydrocarbons (PAHs) were detected in the fill sample collected in borehole BH-3. This sample also had a number of SVOC TICs. Six of the PAH compounds identified in BH-3 were over soil cleanup guidance levels.

PAHs are a group of chemicals that are formed during incomplete burning of wood, coal, gas, garbage or other organic substances and are widely distributed in the environment and particularly in older urban environments where coal, gas, and petroleum were burned for heat and other energy uses. PAH compounds are common constituents of fill material found in urban environments, and are typically associated with both fill material, coal tar and asphalt based materials or ash. These are frequently found in rail road fill base material and in foundry sands.

Metals

Metals were detected in all soils analyzed. However, only a few metal compounds had concentrations that exceeded SCO as follows:

BH 5		
Contaminant	**Lab Value**	**NYSDEC SCO**
Copper	911 ppm	270 ppm Commercial
Lead	876 ppm	400 ppm Restrict Residential

BH 7		
Contaminant	**Lab Value**	**NYSDEC SCO**
Copper	747 ppm	270 ppm Commercial

BH 8		
Contaminant	**Lab Value**	**NYSDEC SCO**
Copper	9950 ppm	270 ppm Commercial
Chromium	202 ppm	180 ppm Restrict. Residential
Manganese	7780 ppm	2000 ppm Restrict. Residential

Metals are typically found in foundry sands and urban fill at elevated levels.

PCBs/Pesticides

No PCBs were detected in any of the soil samples. A number of pesticides were detected in soil sample BH 5; however at concentrations well below SCO levels. No pesticides

were detected in any other soil samples analyzed.

CONCLUSIONS

Elevated PAHs and metals are associated with fill materials at the property especially along the eastern portion of the property. Elevated chlorinated solvents were also identified at specific locations on the eastern side of the property structure. It appears, based on this limited assessment that the bulk of the solvent impact is in the area between BH5-4s and BH5-2n on the eastern portion of the property. Since minimal solvent levels were detected in other borings along the eastern side of the building, it is possible that lower levels of solvent may exist all along the creek side.

It should be noted that other investigation reports gathered as part of the Phase I ESA for adjacent and nearby properties along the Creek (north along Tonawanda Street) indicated that elevated chlorinated solvents exists in fill materials. The investigation reports for adjacent properties along the creek all indicated solvents along with other contaminants – both in creek sediments and soils adjacent to the creek. In addition, a Manufactured Gas Plants (MGP) historically existed along Dart/Bradley Streets and at the former Brystal-Meters Squibb facility east of the subject property.

The possible source of the solvent impacts could be one of the following though there may be other possibilities:

- The 31 Tonawanda facility Operations. The facility used solvents and the likely groundwater flow is towards the creek. All the other investigations completed in the area for other properties identify the groundwater as flowing south east towards the creek;

- Contaminated fill materials brought in from the metal forging operations north of the property: During the installation of the borings there appeared to be a retaining wall along the top of the creek bank. It is possible that this wall was placed when the building was constructed in the early 1900s and fill material brought in to backfill behind the wall;

- The Creek itself: Prior to any fill brought in to the site some migration of current creek sediments could have occurred. The Niagara River may have some hydraulic pull towards the west and their appears to be seche events (reverse flow in the creek). Also, the Creek was much wider prior to the construction of industrial

buildings along the Creek and there are reports of filling using foundry sand – certainly north of the property.

WARRANT AND LIMITATIONS

This report is based on information from a focused Phase II ESA whose scope of work was formulated based on a previous Phase I ESA on the parcel. The field investigations themselves which comprise this focused Phase II ESA consisted of the installation of eleven shallow borings across the property.

This report is intended exclusively for the purpose outlined herein at the site location and for the project indicated. The property and this ESA are limited to the footprint of the parcel.

This report is intended for the sole use of Mr. Wayne Bacon and others with which he chooses to share this report. The scope of services performed in this assessment may not be appropriate to satisfy the needs of other users and any use or re-use of this document or the findings, conclusions, or recommendations presented, is at the sole risk of the user.

The conclusions set forth in this report are based upon, and limited by, the analytical data and other information available to PEI. It should be noted that all surface and subsurface environmental assessments are inherently limited in the sense that conclusions are drawn from information obtained from limited data and site evaluation at a specific time. The passage of time may result in a change in environmental circumstances at this site and surrounding properties, or hazardous materials beneath the surface may be present but undetectable during a focused/limited Phase II ESA.

Opinions and recommendations presented herein apply to the site conditions existing at the time of the subsurface assessment and those reasonably foreseeable. They can't necessarily apply to site changes of which PEI is not aware and has not had the opportunity to evaluate.

We thank you for the opportunity to be of assistance to you on this project. Please do not hesitate to contact us if you have any questions or require further assistance.

Sincerely,

Peter J. Gorton,
President
Panamerican Environmental, Inc.

Attachments: A Site Photographs
B. Laboratory Results

ATTACHMENT A

PHOTOGRAPHS

1 location of borehole BH-1 facing east

2. Location of BH-1 facing south

3. Soil cores from BH-1

4. Location of borehole BH-2 facing east

5. Location of BH-2 facing south

6. Soil cores from BH-2

7. Location of borehole BH-3 facing east

8. Location of borehole 3 facing north

9. Location of Borehole BH-4 facing east

10. Location of BH-4 facing south

11. Soil Cores BH-4

12. Location of Borehole BH-5 facing north

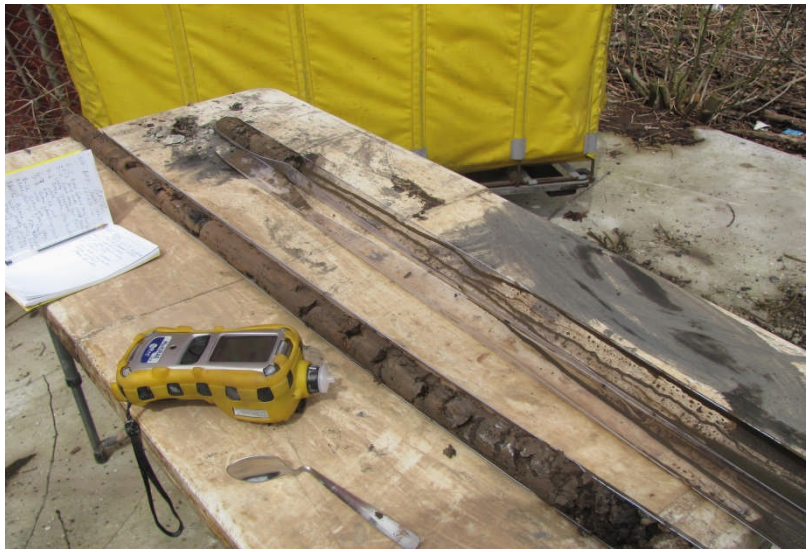
13. Location of BH-5

14. Soil cores BH-5

15. Location of BH-5 at cooler; facing south

16. Location of borehole BH-6 facing south

17. Location of BH-6 facing north



18. Soil cores BH-6

19. Pipe stick-up; west side of building

20. Location of borehole 7 facing north

21. Soil cores BH-7

22. Location of borehole BH-8 facing east

23. Location of BH-8 facing north

24. Soil cores BH-8

25. Location of boring BH-9 facing north

26. Location of BH-9 facing east

27. Location of BH-9 facing south

28. Soil cores BH-9

29. . Location of borehole BH-10 in High Bay area of building

30. Location of BH-10 facing north in High Bay area of building

31. Location of BH-10 adjacent to pit area in High Bay area of building

32. Soil cores BH-10

33. Location of BH5-1s facing north; 10 feet south of Phase 2 BH-5

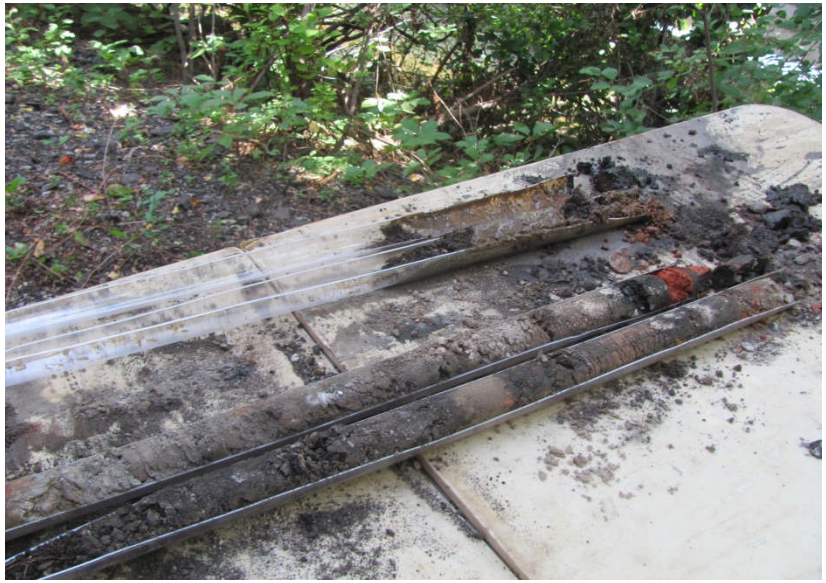
34. Location of BH5-1s facing south

35. Location of BH5-2s; 20 feet south of Phase 2 BH-5 facing north

36. Location of BH5-2s facing south

37. Location of borehole BH5-3s facing north; 30 feet south of Phase 2 BH-5

38. Location of BH5-3s facing south



39. BH5-3s cores

40. Bridge to get around stairs

41. Location borehole BH5-4s; 49 feet south of Phase 2 borehole BH-5 facing north

42. Location of borehole BH5-1n facing north; 15 feet north of phase 2 borehole BH-5

43. Location of borehole BH5-1n facing south

44. BH5-1n soil cores

45. Location of borehole BH5-2n facing north; 30 feet north of Phase 2 BH-5

46. Location of BH5-2n facing south

ATTACHMENT B
ANALYTICAL DATA

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Panamerican Environmental Consultants

For Lab Project ID

141430

Referencing

31 Tonawanda

Prepared

Monday, April 21, 2014

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

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Part 375 Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	**12.1**	mg/Kg		4/16/2014 11:03
Barium	**340**	mg/Kg		4/16/2014 11:03
Beryllium	< 0.827	mg/Kg		4/16/2014 11:03
Cadmium	**2.41**	mg/Kg		4/16/2014 11:03
Chromium	**28.5**	mg/Kg		4/16/2014 11:03
Copper	**911**	mg/Kg		4/16/2014 11:03
Lead	**876**	mg/Kg		4/16/2014 11:03
Manganese	**200**	mg/Kg		4/16/2014 11:03
Nickel	**20.9**	mg/Kg		4/16/2014 11:03
Selenium	< 1.65	mg/Kg		4/16/2014 11:03
Silver	< 1.65	mg/Kg		4/16/2014 11:03
Zinc	**1410**	mg/Kg		4/16/2014 11:03

Method Reference(s): EPA 6010C
EPA 3050
Data File: 041614a

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**1.21**	mg/Kg		4/17/2014 11:04

Method Reference(s): EPA 7471B
Data File: Hg140417A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0444	mg/Kg		4/17/2014 22:10
PCB-1221	< 0.0444	mg/Kg		4/17/2014 22:10
PCB-1232	< 0.0444	mg/Kg		4/17/2014 22:10

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

PCB-1242	< 0.0444	mg/Kg		4/17/2014	22:10
PCB-1248	< 0.0444	mg/Kg		4/17/2014	22:10
PCB-1254	< 0.0444	mg/Kg		4/17/2014	22:10
PCB-1260	< 0.0444	mg/Kg		4/17/2014	22:10
PCB-1262	< 0.0444	mg/Kg		4/17/2014	22:10
PCB-1268	< 0.0444	mg/Kg		4/17/2014	22:10

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8082A
EPA 3550C

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed	
4,4-DDD	**4.60**	ug/Kg	P	4/17/2014	11:34
4,4-DDE	**10.3**	ug/Kg	P	4/17/2014	11:34
4,4-DDT	**9.45**	ug/Kg	P	4/17/2014	11:34
Aldrin	< 4.44	ug/Kg		4/17/2014	11:34
alpha-BHC	**8.54**	ug/Kg		4/17/2014	11:34
beta-BHC	**8.70**	ug/Kg	P	4/17/2014	11:34
cis-Chlordane	**14.4**	ug/Kg		4/17/2014	11:34
delta-BHC	**21.8**	ug/Kg		4/17/2014	11:34
Dieldrin	**10.7**	ug/Kg	P	4/17/2014	11:34
Endosulfan I	**4.67**	ug/Kg		4/17/2014	11:34
Endosulfan II	**8.75**	ug/Kg		4/17/2014	11:34
Endosulfan Sulfate	**12.0**	ug/Kg		4/17/2014	11:34
Endrin	**7.22**	ug/Kg	P	4/17/2014	11:34
Endrin Aldehyde	**20.6**	ug/Kg		4/17/2014	11:34
Endrin Ketone	**11.2**	ug/Kg	P	4/17/2014	11:34
gamma-BHC (Lindane)	**12.8**	ug/Kg		4/17/2014	11:34
Heptachlor	**26.4**	ug/Kg		4/17/2014	11:34

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Heptachlor Epoxide	**8.89**	ug/Kg	P	4/17/2014	11:34
Methoxychlor	**70.4**	ug/Kg	P	4/17/2014	11:34
Toxaphene	< 44.4	ug/Kg		4/17/2014	11:34
trans-Chlordane	< 4.44	ug/Kg		4/17/2014	11:34

Method Reference(s): EPA 8081B
EPA 3550C

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1-Biphenyl	< 4670	ug/Kg		4/18/2014	19:21
1,2,4,5-Tetrachlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
1,2,4-Trichlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
1,2-Dichlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
1,3-Dichlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
1,4-Dichlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
2,3,4,6-Tetrachlorophenol	< 4670	ug/Kg		4/18/2014	19:21
2,4,5-Trichlorophenol	< 9340	ug/Kg		4/18/2014	19:21
2,4,6-Trichlorophenol	< 4670	ug/Kg		4/18/2014	19:21
2,4-Dichlorophenol	< 4670	ug/Kg		4/18/2014	19:21
2,4-Dimethylphenol	< 4670	ug/Kg		4/18/2014	19:21
2,4-Dinitrophenol	< 9340	ug/Kg		4/18/2014	19:21
2,4-Dinitrotoluene	< 4670	ug/Kg		4/18/2014	19:21
2,6-Dinitrotoluene	< 4670	ug/Kg		4/18/2014	19:21
2-Chloronaphthalene	< 4670	ug/Kg		4/18/2014	19:21
2-Chlorophenol	< 4670	ug/Kg		4/18/2014	19:21
2-Methylnapthalene	< 4670	ug/Kg		4/18/2014	19:21
2-Methylphenol	< 4670	ug/Kg		4/18/2014	19:21
2-Nitroaniline	< 9340	ug/Kg		4/18/2014	19:21
2-Nitrophenol	< 4670	ug/Kg		4/18/2014	19:21

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

3&4-Methylphenol	< 4670	ug/Kg	4/18/2014	19:21
3,3'-Dichlorobenzidine	< 4670	ug/Kg	4/18/2014	19:21
3-Nitroaniline	< 9340	ug/Kg	4/18/2014	19:21
4,6-Dinitro-2-methylphenol	< 9340	ug/Kg	4/18/2014	19:21
4-Bromophenyl phenyl ether	< 4670	ug/Kg	4/18/2014	19:21
4-Chloro-3-methylphenol	< 4670	ug/Kg	4/18/2014	19:21
4-Chloroaniline	< 4670	ug/Kg	4/18/2014	19:21
4-Chlorophenyl phenyl ether	< 4670	ug/Kg	4/18/2014	19:21
4-Nitroaniline	< 9340	ug/Kg	4/18/2014	19:21
4-Nitrophenol	< 9340	ug/Kg	4/18/2014	19:21
Acenaphthene	**6150**	ug/Kg	4/18/2014	19:21
Acenaphthylene	< 4670	ug/Kg	4/18/2014	19:21
Acetophenone	< 4670	ug/Kg	4/18/2014	19:21
Anthracene	< 4670	ug/Kg	4/18/2014	19:21
Atrazine	< 4670	ug/Kg	4/18/2014	19:21
Benzaldehyde	< 4670	ug/Kg	4/18/2014	19:21
Benzo (a) anthracene	**6020**	ug/Kg	4/18/2014	19:21
Benzo (a) pyrene	< 4670	ug/Kg	4/18/2014	19:21
Benzo (b) fluoranthene	**5700**	ug/Kg	4/18/2014	19:21
Benzo (g,h,i) perylene	< 4670	ug/Kg	4/18/2014	19:21
Benzo (k) fluoranthene	< 4670	ug/Kg	4/18/2014	19:21
Bis (2-chloroethoxy) methane	< 4670	ug/Kg	4/18/2014	19:21
Bis (2-chloroethyl) ether	< 4670	ug/Kg	4/18/2014	19:21
Bis (2-chloroisopropyl) ether	< 4670	ug/Kg	4/18/2014	19:21
Bis (2-ethylhexyl) phthalate	< 4670	ug/Kg	4/18/2014	19:21
Butylbenzylphthalate	< 4670	ug/Kg	4/18/2014	19:21
Caprolactam	< 4670	ug/Kg	4/18/2014	19:21
Carbazole	< 4670	ug/Kg	4/18/2014	19:21

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Chrysene	**7740**	ug/Kg		4/18/2014	19:21
Dibenz (a,h) anthracene	< 4670	ug/Kg		4/18/2014	19:21
Dibenzofuran	< 4670	ug/Kg		4/18/2014	19:21
Diethyl phthalate	< 4670	ug/Kg		4/18/2014	19:21
Dimethyl phthalate	< 9340	ug/Kg		4/18/2014	19:21
Di-n-butyl phthalate	< 4670	ug/Kg		4/18/2014	19:21
Di-n-octylphthalate	< 4670	ug/Kg		4/18/2014	19:21
Fluoranthene	**11000**	ug/Kg		4/18/2014	19:21
Fluorene	< 4670	ug/Kg		4/18/2014	19:21
Hexachlorobenzene	< 4670	ug/Kg		4/18/2014	19:21
Hexachlorobutadiene	< 4670	ug/Kg		4/18/2014	19:21
Hexachlorocyclopentadiene	< 4670	ug/Kg		4/18/2014	19:21
Hexachloroethane	< 4670	ug/Kg		4/18/2014	19:21
Indeno (1,2,3-cd) pyrene	< 4670	ug/Kg		4/18/2014	19:21
Isophorone	< 4670	ug/Kg		4/18/2014	19:21
Naphthalene	< 4670	ug/Kg		4/18/2014	19:21
Nitrobenzene	< 4670	ug/Kg		4/18/2014	19:21
N-Nitroso-di-n-propylamine	< 4670	ug/Kg		4/18/2014	19:21
N-Nitrosodiphenylamine	< 4670	ug/Kg		4/18/2014	19:21
Pentachlorophenol	< 9340	ug/Kg		4/18/2014	19:21
Phenanthrene	**17100**	ug/Kg		4/18/2014	19:21
Phenol	< 4670	ug/Kg		4/18/2014	19:21
Pyrene	**15000**	ug/Kg		4/18/2014	19:21

Method Reference(s): EPA 8270D
EPA 3550C
Data File: S76156.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 130000	ug/Kg		4/15/2014 23:11
1,1,2,2-Tetrachloroethane	< 130000	ug/Kg		4/15/2014 23:11
1,1,2-Trichloroethane	< 130000	ug/Kg		4/15/2014 23:11
1,1-Dichloroethane	< 130000	ug/Kg		4/15/2014 23:11
1,1-Dichloroethene	< 130000	ug/Kg		4/15/2014 23:11
1,2,3-Trichlorobenzene	< 324000	ug/Kg		4/15/2014 23:11
1,2,4-Trichlorobenzene	< 324000	ug/Kg		4/15/2014 23:11
1,2,4-Trimethylbenzene	< 130000	ug/Kg		4/15/2014 23:11
1,2-Dibromo-3-Chloropropane	< 649000	ug/Kg		4/15/2014 23:11
1,2-Dibromoethane	< 130000	ug/Kg		4/15/2014 23:11
1,2-Dichlorobenzene	< 130000	ug/Kg		4/15/2014 23:11
1,2-Dichloroethane	< 130000	ug/Kg		4/15/2014 23:11
1,2-Dichloropropane	< 130000	ug/Kg		4/15/2014 23:11
1,3,5-Trimethylbenzene	< 130000	ug/Kg		4/15/2014 23:11
1,3-Dichlorobenzene	< 130000	ug/Kg		4/15/2014 23:11
1,4-Dichlorobenzene	< 130000	ug/Kg		4/15/2014 23:11
1,4-dioxane	< 1300000	ug/Kg		4/15/2014 23:11
2-Butanone	< 649000	ug/Kg		4/15/2014 23:11
2-Hexanone	< 324000	ug/Kg		4/15/2014 23:11
4-Methyl-2-pentanone	< 324000	ug/Kg		4/15/2014 23:11
Acetone	< 649000	ug/Kg		4/15/2014 23:11
Benzene	< 130000	ug/Kg		4/15/2014 23:11
Bromochloromethane	< 324000	ug/Kg		4/15/2014 23:11
Bromodichloromethane	< 130000	ug/Kg		4/15/2014 23:11
Bromoform	< 324000	ug/Kg		4/15/2014 23:11
Bromomethane	< 130000	ug/Kg		4/15/2014 23:11

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-5 9-12 Foot
Lab Sample ID: 141430-01 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Carbon disulfide	< 130000	ug/Kg	4/15/2014	23:11
Carbon Tetrachloride	< 130000	ug/Kg	4/15/2014	23:11
Chlorobenzene	< 130000	ug/Kg	4/15/2014	23:11
Chloroethane	< 130000	ug/Kg	4/15/2014	23:11
Chloroform	< 130000	ug/Kg	4/15/2014	23:11
Chloromethane	< 130000	ug/Kg	4/15/2014	23:11
cis-1,2-Dichloroethene	**880000**	ug/Kg	4/15/2014	23:11
cis-1,3-Dichloropropene	< 130000	ug/Kg	4/15/2014	23:11
Cyclohexane	< 649000	ug/Kg	4/15/2014	23:11
Dibromochloromethane	< 130000	ug/Kg	4/15/2014	23:11
Dichlorodifluoromethane	< 130000	ug/Kg	4/15/2014	23:11
Ethylbenzene	< 130000	ug/Kg	4/15/2014	23:11
Freon 113	< 130000	ug/Kg	4/15/2014	23:11
Isopropylbenzene	< 130000	ug/Kg	4/15/2014	23:11
m,p-Xylene	< 130000	ug/Kg	4/15/2014	23:11
Methyl acetate	< 130000	ug/Kg	4/15/2014	23:11
Methyl tert-butyl Ether	< 130000	ug/Kg	4/15/2014	23:11
Methylcyclohexane	< 130000	ug/Kg	4/15/2014	23:11
Methylene chloride	< 324000	ug/Kg	4/15/2014	23:11
Naphthalene	< 324000	ug/Kg	4/15/2014	23:11
n-Butylbenzene	< 130000	ug/Kg	4/15/2014	23:11
n-Propylbenzene	< 130000	ug/Kg	4/15/2014	23:11
o-Xylene	< 130000	ug/Kg	4/15/2014	23:11
p-Isopropyltoluene	< 130000	ug/Kg	4/15/2014	23:11
sec-Butylbenzene	< 130000	ug/Kg	4/15/2014	23:11
Styrene	< 324000	ug/Kg	4/15/2014	23:11
tert-Butylbenzene	< 130000	ug/Kg	4/15/2014	23:11
Tetrachloroethene	< 130000	ug/Kg	4/15/2014	23:11

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier:	BH-5 9-12 Foot		
Lab Sample ID:	141430-01	**Date Sampled:**	4/11/2014
Matrix:	Soil	**Date Received:**	4/14/2014

Toluene	< 130000	ug/Kg	4/15/2014	23:11
trans-1,2-Dichloroethene	< 130000	ug/Kg	4/15/2014	23:11
trans-1,3-Dichloropropene	< 130000	ug/Kg	4/15/2014	23:11
Trichloroethene	**6960000**	ug/Kg	4/15/2014	23:11
Trichlorofluoromethane	< 130000	ug/Kg	4/15/2014	23:11
Vinyl chloride	< 130000	ug/Kg	4/15/2014	23:11

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x12574.D

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.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-7 9-12 Foot
Lab Sample ID: 141430-02 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Part 375 Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	**11.5**	mg/Kg		4/16/2014 11:07
Barium	**137**	mg/Kg		4/16/2014 11:07
Beryllium	**0.835**	mg/Kg		4/16/2014 11:07
Cadmium	< 0.825	mg/Kg		4/16/2014 11:07
Chromium	**28.8**	mg/Kg		4/16/2014 11:07
Copper	**747**	mg/Kg		4/16/2014 11:07
Lead	**263**	mg/Kg		4/16/2014 11:07
Manganese	**502**	mg/Kg		4/16/2014 11:07
Nickel	**36.3**	mg/Kg		4/16/2014 11:07
Selenium	< 1.65	mg/Kg		4/16/2014 11:07
Silver	< 1.65	mg/Kg		4/16/2014 11:07
Zinc	**202**	mg/Kg		4/16/2014 11:07

Method Reference(s): EPA 6010C
EPA 3050
Data File: 041614a

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.506**	mg/Kg		4/17/2014 11:07

Method Reference(s): EPA 7471B
Data File: Hg140417A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0450	mg/Kg		4/17/2014 22:33
PCB-1221	< 0.0450	mg/Kg		4/17/2014 22:33
PCB-1232	< 0.0450	mg/Kg		4/17/2014 22:33

Sample Identifier: BH-7 9-12 Foot
Lab Sample ID: 141430-02 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

PCB-1242	< 0.0450	mg/Kg	4/17/2014	22:33
PCB-1248	< 0.0450	mg/Kg	4/17/2014	22:33
PCB-1254	< 0.0450	mg/Kg	4/17/2014	22:33
PCB-1260	< 0.0450	mg/Kg	4/17/2014	22:33
PCB-1262	< 0.0450	mg/Kg	4/17/2014	22:33
PCB-1268	< 0.0450	mg/Kg	4/17/2014	22:33

Method Reference(s): EPA 8082A
EPA 3550C

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed	
4,4-DDD	< 4.50	ug/Kg		4/15/2014	13:41
4,4-DDE	< 4.50	ug/Kg		4/15/2014	13:41
4,4-DDT	< 4.50	ug/Kg		4/15/2014	13:41
Aldrin	< 4.50	ug/Kg		4/15/2014	13:41
alpha-BHC	< 4.50	ug/Kg		4/15/2014	13:41
beta-BHC	< 4.50	ug/Kg		4/15/2014	13:41
cis-Chlordane	< 4.50	ug/Kg		4/15/2014	13:41
delta-BHC	< 4.50	ug/Kg		4/15/2014	13:41
Dieldrin	< 4.50	ug/Kg		4/15/2014	13:41
Endosulfan I	< 4.50	ug/Kg		4/15/2014	13:41
Endosulfan II	< 4.50	ug/Kg		4/15/2014	13:41
Endosulfan Sulfate	< 4.50	ug/Kg		4/15/2014	13:41
Endrin	< 4.50	ug/Kg		4/15/2014	13:41
Endrin Aldehyde	< 4.50	ug/Kg		4/15/2014	13:41
Endrin Ketone	< 4.50	ug/Kg		4/15/2014	13:41
gamma-BHC (Lindane)	< 4.50	ug/Kg		4/15/2014	13:41
Heptachlor	< 4.50	ug/Kg		4/15/2014	13:41
Heptachlor Epoxide	< 4.50	ug/Kg		4/15/2014	13:41

Sample Identifier: BH-7 9-12 Foot
Lab Sample ID: 141430-02 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Methoxychlor	< 4.50	ug/Kg		4/15/2014	13:41
Toxaphene	< 45.0	ug/Kg		4/15/2014	13:41
trans-Chlordane	< 4.50	ug/Kg		4/15/2014	13:41

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8081B
EPA 3550C

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1-Biphenyl	< 450	ug/Kg		4/18/2014	15:11
1,2,4,5-Tetrachlorobenzene	< 450	ug/Kg		4/18/2014	15:11
1,2,4-Trichlorobenzene	< 450	ug/Kg		4/18/2014	15:11
1,2-Dichlorobenzene	< 450	ug/Kg		4/18/2014	15:11
1,3-Dichlorobenzene	< 450	ug/Kg		4/18/2014	15:11
1,4-Dichlorobenzene	< 450	ug/Kg		4/18/2014	15:11
2,3,4,6-Tetrachlorophenol	< 450	ug/Kg		4/18/2014	15:11
2,4,5-Trichlorophenol	< 900	ug/Kg		4/18/2014	15:11
2,4,6-Trichlorophenol	< 450	ug/Kg		4/18/2014	15:11
2,4-Dichlorophenol	< 450	ug/Kg		4/18/2014	15:11
2,4-Dimethylphenol	< 450	ug/Kg		4/18/2014	15:11
2,4-Dinitrophenol	< 900	ug/Kg		4/18/2014	15:11
2,4-Dinitrotoluene	< 450	ug/Kg		4/18/2014	15:11
2,6-Dinitrotoluene	< 450	ug/Kg		4/18/2014	15:11
2-Chloronaphthalene	< 450	ug/Kg		4/18/2014	15:11
2-Chlorophenol	< 450	ug/Kg		4/18/2014	15:11
2-Methylnapthalene	< 450	ug/Kg		4/18/2014	15:11
2-Methylphenol	< 450	ug/Kg		4/18/2014	15:11
2-Nitroaniline	< 900	ug/Kg		4/18/2014	15:11
2-Nitrophenol	< 450	ug/Kg		4/18/2014	15:11

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier:	BH-7 9-12 Foot		
Lab Sample ID:	141430-02	**Date Sampled:**	4/11/2014
Matrix:	Soil	**Date Received:**	4/14/2014

3&4-Methylphenol	< 450	ug/Kg	4/18/2014	15:11
3,3'-Dichlorobenzidine	< 450	ug/Kg	4/18/2014	15:11
3-Nitroaniline	< 900	ug/Kg	4/18/2014	15:11
4,6-Dinitro-2-methylphenol	< 900	ug/Kg	4/18/2014	15:11
4-Bromophenyl phenyl ether	< 450	ug/Kg	4/18/2014	15:11
4-Chloro-3-methylphenol	< 450	ug/Kg	4/18/2014	15:11
4-Chloroaniline	< 450	ug/Kg	4/18/2014	15:11
4-Chlorophenyl phenyl ether	< 450	ug/Kg	4/18/2014	15:11
4-Nitroaniline	< 900	ug/Kg	4/18/2014	15:11
4-Nitrophenol	< 900	ug/Kg	4/18/2014	15:11
Acenaphthene	< 450	ug/Kg	4/18/2014	15:11
Acenaphthylene	< 450	ug/Kg	4/18/2014	15:11
Acetophenone	< 450	ug/Kg	4/18/2014	15:11
Anthracene	< 450	ug/Kg	4/18/2014	15:11
Atrazine	< 450	ug/Kg	4/18/2014	15:11
Benzaldehyde	< 450	ug/Kg	4/18/2014	15:11
Benzo (a) anthracene	< 450	ug/Kg	4/18/2014	15:11
Benzo (a) pyrene	< 450	ug/Kg	4/18/2014	15:11
Benzo (b) fluoranthene	< 450	ug/Kg	4/18/2014	15:11
Benzo (g,h,i) perylene	< 450	ug/Kg	4/18/2014	15:11
Benzo (k) fluoranthene	< 450	ug/Kg	4/18/2014	15:11
Bis (2-chloroethoxy) methane	< 450	ug/Kg	4/18/2014	15:11
Bis (2-chloroethyl) ether	< 450	ug/Kg	4/18/2014	15:11
Bis (2-chloroisopropyl) ether	< 450	ug/Kg	4/18/2014	15:11
Bis (2-ethylhexyl) phthalate	< 450	ug/Kg	4/18/2014	15:11
Butylbenzylphthalate	< 450	ug/Kg	4/18/2014	15:11
Caprolactam	< 450	ug/Kg	4/18/2014	15:11
Carbazole	< 450	ug/Kg	4/18/2014	15:11

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier:	BH-7 9-12 Foot		
Lab Sample ID:	141430-02	**Date Sampled:**	4/11/2014
Matrix:	Soil	**Date Received:**	4/14/2014

Chrysene	< 450	ug/Kg		4/18/2014	15:11
Dibenz (a,h) anthracene	< 450	ug/Kg		4/18/2014	15:11
Dibenzofuran	< 450	ug/Kg		4/18/2014	15:11
Diethyl phthalate	< 450	ug/Kg		4/18/2014	15:11
Dimethyl phthalate	< 900	ug/Kg		4/18/2014	15:11
Di-n-butyl phthalate	< 450	ug/Kg		4/18/2014	15:11
Di-n-octylphthalate	< 450	ug/Kg		4/18/2014	15:11
Fluoranthene	< 450	ug/Kg		4/18/2014	15:11
Fluorene	< 450	ug/Kg		4/18/2014	15:11
Hexachlorobenzene	< 450	ug/Kg		4/18/2014	15:11
Hexachlorobutadiene	< 450	ug/Kg		4/18/2014	15:11
Hexachlorocyclopentadiene	< 450	ug/Kg		4/18/2014	15:11
Hexachloroethane	< 450	ug/Kg		4/18/2014	15:11
Indeno (1,2,3-cd) pyrene	< 450	ug/Kg		4/18/2014	15:11
Isophorone	< 450	ug/Kg		4/18/2014	15:11
Naphthalene	< 450	ug/Kg		4/18/2014	15:11
Nitrobenzene	< 450	ug/Kg		4/18/2014	15:11
N-Nitroso-di-n-propylamine	< 450	ug/Kg		4/18/2014	15:11
N-Nitrosodiphenylamine	< 450	ug/Kg		4/18/2014	15:11
Pentachlorophenol	< 900	ug/Kg		4/18/2014	15:11
Phenanthrene	< 450	ug/Kg		4/18/2014	15:11
Phenol	< 450	ug/Kg		4/18/2014	15:11
Pyrene	< 450	ug/Kg		4/18/2014	15:11

Method Reference(s): EPA 8270D
EPA 3550C

Data File: S76148.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: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-7 9-12 Foot
Lab Sample ID: 141430-02 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 10.2	ug/Kg		4/15/2014 21:38
1,1,2,2-Tetrachloroethane	< 10.2	ug/Kg		4/15/2014 21:38
1,1,2-Trichloroethane	< 10.2	ug/Kg		4/15/2014 21:38
1,1-Dichloroethane	< 10.2	ug/Kg		4/15/2014 21:38
1,1-Dichloroethene	< 10.2	ug/Kg		4/15/2014 21:38
1,2,3-Trichlorobenzene	< 25.4	ug/Kg		4/15/2014 21:38
1,2,4-Trichlorobenzene	< 25.4	ug/Kg		4/15/2014 21:38
1,2,4-Trimethylbenzene	< 10.2	ug/Kg		4/15/2014 21:38
1,2-Dibromo-3-Chloropropane	< 50.8	ug/Kg		4/15/2014 21:38
1,2-Dibromoethane	< 10.2	ug/Kg		4/15/2014 21:38
1,2-Dichlorobenzene	< 10.2	ug/Kg		4/15/2014 21:38
1,2-Dichloroethane	< 10.2	ug/Kg		4/15/2014 21:38
1,2-Dichloropropane	< 10.2	ug/Kg		4/15/2014 21:38
1,3,5-Trimethylbenzene	< 10.2	ug/Kg		4/15/2014 21:38
1,3-Dichlorobenzene	< 10.2	ug/Kg		4/15/2014 21:38
1,4-Dichlorobenzene	< 10.2	ug/Kg		4/15/2014 21:38
1,4-dioxane	< 102	ug/Kg		4/15/2014 21:38
2-Butanone	< 50.8	ug/Kg		4/15/2014 21:38
2-Hexanone	< 25.4	ug/Kg		4/15/2014 21:38
4-Methyl-2-pentanone	< 25.4	ug/Kg		4/15/2014 21:38
Acetone	< 50.8	ug/Kg		4/15/2014 21:38
Benzene	< 10.2	ug/Kg		4/15/2014 21:38
Bromochloromethane	< 25.4	ug/Kg		4/15/2014 21:38
Bromodichloromethane	< 10.2	ug/Kg		4/15/2014 21:38
Bromoform	< 25.4	ug/Kg		4/15/2014 21:38
Bromomethane	< 10.2	ug/Kg		4/15/2014 21:38

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-7 9-12 Foot
Lab Sample ID: 141430-02 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Carbon disulfide	< 10.2	ug/Kg	4/15/2014	21:38
Carbon Tetrachloride	< 10.2	ug/Kg	4/15/2014	21:38
Chlorobenzene	< 10.2	ug/Kg	4/15/2014	21:38
Chloroethane	< 10.2	ug/Kg	4/15/2014	21:38
Chloroform	< 10.2	ug/Kg	4/15/2014	21:38
Chloromethane	< 10.2	ug/Kg	4/15/2014	21:38
cis-1,2-Dichloroethene	< 10.2	ug/Kg	4/15/2014	21:38
cis-1,3-Dichloropropene	< 10.2	ug/Kg	4/15/2014	21:38
Cyclohexane	< 50.8	ug/Kg	4/15/2014	21:38
Dibromochloromethane	< 10.2	ug/Kg	4/15/2014	21:38
Dichlorodifluoromethane	< 10.2	ug/Kg	4/15/2014	21:38
Ethylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
Freon 113	< 10.2	ug/Kg	4/15/2014	21:38
Isopropylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
m,p-Xylene	< 10.2	ug/Kg	4/15/2014	21:38
Methyl acetate	< 10.2	ug/Kg	4/15/2014	21:38
Methyl tert-butyl Ether	< 10.2	ug/Kg	4/15/2014	21:38
Methylcyclohexane	< 10.2	ug/Kg	4/15/2014	21:38
Methylene chloride	< 25.4	ug/Kg	4/15/2014	21:38
Naphthalene	< 25.4	ug/Kg	4/15/2014	21:38
n-Butylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
n-Propylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
o-Xylene	< 10.2	ug/Kg	4/15/2014	21:38
p-Isopropyltoluene	< 10.2	ug/Kg	4/15/2014	21:38
sec-Butylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
Styrene	< 25.4	ug/Kg	4/15/2014	21:38
tert-Butylbenzene	< 10.2	ug/Kg	4/15/2014	21:38
Tetrachloroethene	< 10.2	ug/Kg	4/15/2014	21:38

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier:	BH-7 9-12 Foot		
Lab Sample ID:	141430-02	**Date Sampled:**	4/11/2014
Matrix:	Soil	**Date Received:**	4/14/2014

Toluene	< 10.2	ug/Kg	4/15/2014	21:38
trans-1,2-Dichloroethene	< 10.2	ug/Kg	4/15/2014	21:38
trans-1,3-Dichloropropene	< 10.2	ug/Kg	4/15/2014	21:38
Trichloroethene	< 10.2	ug/Kg	4/15/2014	21:38
Trichlorofluoromethane	< 10.2	ug/Kg	4/15/2014	21:38
Vinyl chloride	< 10.2	ug/Kg	4/15/2014	21:38

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x12570.D

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.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Part 375 Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	**8.46**	mg/Kg		4/16/2014 11:11
Barium	**34.4**	mg/Kg		4/16/2014 11:11
Beryllium	< 0.559	mg/Kg		4/16/2014 11:11
Cadmium	**0.939**	mg/Kg		4/16/2014 11:11
Chromium	**202**	mg/Kg		4/16/2014 11:11
Copper	**9550**	mg/Kg		4/16/2014 20:19
Lead	**130**	mg/Kg		4/16/2014 11:11
Manganese	**7780**	mg/Kg		4/16/2014 20:19
Nickel	**14.3**	mg/Kg		4/16/2014 11:11
Selenium	**5.75**	mg/Kg		4/16/2014 20:15
Silver	< 1.12	mg/Kg		4/16/2014 11:11
Zinc	**518**	mg/Kg		4/16/2014 11:11

Method Reference(s): EPA 6010C
EPA 3050
Data File: 041614a

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	**0.0448**	mg/Kg		4/17/2014 11:10

Method Reference(s): EPA 7471B
Data File: Hg140417A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.0340	mg/Kg		4/16/2014 07:29
PCB-1221	< 0.0340	mg/Kg		4/16/2014 07:29
PCB-1232	< 0.0340	mg/Kg		4/16/2014 07:29

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

PCB-1242	< 0.0340	mg/Kg		4/16/2014	07:29
PCB-1248	< 0.0340	mg/Kg		4/16/2014	07:29
PCB-1254	< 0.0340	mg/Kg		4/16/2014	07:29
PCB-1260	< 0.0340	mg/Kg		4/16/2014	07:29
PCB-1262	< 0.0340	mg/Kg		4/16/2014	07:29
PCB-1268	< 0.0340	mg/Kg		4/16/2014	07:29

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8082A
EPA 3550C

Chlorinated Pesticides

Analyte	Result	Units	Qualifier	Date Analyzed	
4,4-DDD	< 3.40	ug/Kg		4/15/2014	13:56
4,4-DDE	< 3.40	ug/Kg		4/15/2014	13:56
4,4-DDT	< 3.40	ug/Kg		4/15/2014	13:56
Aldrin	< 3.40	ug/Kg		4/15/2014	13:56
alpha-BHC	< 3.40	ug/Kg		4/15/2014	13:56
beta-BHC	< 3.40	ug/Kg		4/15/2014	13:56
cis-Chlordane	< 3.40	ug/Kg		4/15/2014	13:56
delta-BHC	< 3.40	ug/Kg		4/15/2014	13:56
Dieldrin	< 3.40	ug/Kg		4/15/2014	13:56
Endosulfan I	< 3.40	ug/Kg		4/15/2014	13:56
Endosulfan II	< 3.40	ug/Kg		4/15/2014	13:56
Endosulfan Sulfate	< 3.40	ug/Kg		4/15/2014	13:56
Endrin	< 3.40	ug/Kg		4/15/2014	13:56
Endrin Aldehyde	< 3.40	ug/Kg		4/15/2014	13:56
Endrin Ketone	< 3.40	ug/Kg		4/15/2014	13:56
gamma-BHC (Lindane)	< 3.40	ug/Kg		4/15/2014	13:56
Heptachlor	< 3.40	ug/Kg		4/15/2014	13:56

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Heptachlor Epoxide	< 3.40	ug/Kg	4/15/2014	13:56
Methoxychlor	< 3.40	ug/Kg	4/15/2014	13:56
Toxaphene	< 34.0	ug/Kg	4/15/2014	13:56
trans-Chlordane	< 3.40	ug/Kg	4/15/2014	13:56

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8081B
EPA 3550C

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1-Biphenyl	< 343	ug/Kg		4/18/2014	15:43
1,2,4,5-Tetrachlorobenzene	< 343	ug/Kg		4/18/2014	15:43
1,2,4-Trichlorobenzene	< 343	ug/Kg		4/18/2014	15:43
1,2-Dichlorobenzene	< 343	ug/Kg		4/18/2014	15:43
1,3-Dichlorobenzene	< 343	ug/Kg		4/18/2014	15:43
1,4-Dichlorobenzene	< 343	ug/Kg		4/18/2014	15:43
2,3,4,6-Tetrachlorophenol	< 343	ug/Kg		4/18/2014	15:43
2,4,5-Trichlorophenol	< 685	ug/Kg		4/18/2014	15:43
2,4,6-Trichlorophenol	< 343	ug/Kg		4/18/2014	15:43
2,4-Dichlorophenol	< 343	ug/Kg		4/18/2014	15:43
2,4-Dimethylphenol	< 343	ug/Kg		4/18/2014	15:43
2,4-Dinitrophenol	< 685	ug/Kg		4/18/2014	15:43
2,4-Dinitrotoluene	< 343	ug/Kg		4/18/2014	15:43
2,6-Dinitrotoluene	< 343	ug/Kg		4/18/2014	15:43
2-Chloronaphthalene	< 343	ug/Kg		4/18/2014	15:43
2-Chlorophenol	< 343	ug/Kg		4/18/2014	15:43
2-Methylnapthalene	< 343	ug/Kg		4/18/2014	15:43
2-Methylphenol	< 343	ug/Kg		4/18/2014	15:43
2-Nitroaniline	< 685	ug/Kg		4/18/2014	15:43

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

2-Nitrophenol	< 343	ug/Kg	4/18/2014	15:43
3&4-Methylphenol	< 343	ug/Kg	4/18/2014	15:43
3,3'-Dichlorobenzidine	< 343	ug/Kg	4/18/2014	15:43
3-Nitroaniline	< 685	ug/Kg	4/18/2014	15:43
4,6-Dinitro-2-methylphenol	< 685	ug/Kg	4/18/2014	15:43
4-Bromophenyl phenyl ether	< 343	ug/Kg	4/18/2014	15:43
4-Chloro-3-methylphenol	< 343	ug/Kg	4/18/2014	15:43
4-Chloroaniline	< 343	ug/Kg	4/18/2014	15:43
4-Chlorophenyl phenyl ether	< 343	ug/Kg	4/18/2014	15:43
4-Nitroaniline	< 685	ug/Kg	4/18/2014	15:43
4-Nitrophenol	< 685	ug/Kg	4/18/2014	15:43
Acenaphthene	< 343	ug/Kg	4/18/2014	15:43
Acenaphthylene	< 343	ug/Kg	4/18/2014	15:43
Acetophenone	< 343	ug/Kg	4/18/2014	15:43
Anthracene	< 343	ug/Kg	4/18/2014	15:43
Atrazine	< 343	ug/Kg	4/18/2014	15:43
Benzaldehyde	< 343	ug/Kg	4/18/2014	15:43
Benzo (a) anthracene	< 343	ug/Kg	4/18/2014	15:43
Benzo (a) pyrene	< 343	ug/Kg	4/18/2014	15:43
Benzo (b) fluoranthene	< 343	ug/Kg	4/18/2014	15:43
Benzo (g,h,i) perylene	< 343	ug/Kg	4/18/2014	15:43
Benzo (k) fluoranthene	< 343	ug/Kg	4/18/2014	15:43
Bis (2-chloroethoxy) methane	< 343	ug/Kg	4/18/2014	15:43
Bis (2-chloroethyl) ether	< 343	ug/Kg	4/18/2014	15:43
Bis (2-chloroisopropyl) ether	< 343	ug/Kg	4/18/2014	15:43
Bis (2-ethylhexyl) phthalate	< 343	ug/Kg	4/18/2014	15:43
Butylbenzylphthalate	< 343	ug/Kg	4/18/2014	15:43
Caprolactam	< 343	ug/Kg	4/18/2014	15:43

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Carbazole	< 343	ug/Kg	4/18/2014	15:43
Chrysene	< 343	ug/Kg	4/18/2014	15:43
Dibenz (a,h) anthracene	< 343	ug/Kg	4/18/2014	15:43
Dibenzofuran	< 343	ug/Kg	4/18/2014	15:43
Diethyl phthalate	< 343	ug/Kg	4/18/2014	15:43
Dimethyl phthalate	< 685	ug/Kg	4/18/2014	15:43
Di-n-butyl phthalate	< 343	ug/Kg	4/18/2014	15:43
Di-n-octylphthalate	< 343	ug/Kg	4/18/2014	15:43
Fluoranthene	**450**	ug/Kg	4/18/2014	15:43
Fluorene	< 343	ug/Kg	4/18/2014	15:43
Hexachlorobenzene	< 343	ug/Kg	4/18/2014	15:43
Hexachlorobutadiene	< 343	ug/Kg	4/18/2014	15:43
Hexachlorocyclopentadiene	< 343	ug/Kg	4/18/2014	15:43
Hexachloroethane	< 343	ug/Kg	4/18/2014	15:43
Indeno (1,2,3-cd) pyrene	< 343	ug/Kg	4/18/2014	15:43
Isophorone	< 343	ug/Kg	4/18/2014	15:43
Naphthalene	< 343	ug/Kg	4/18/2014	15:43
Nitrobenzene	< 343	ug/Kg	4/18/2014	15:43
N-Nitroso-di-n-propylamine	< 343	ug/Kg	4/18/2014	15:43
N-Nitrosodiphenylamine	< 343	ug/Kg	4/18/2014	15:43
Pentachlorophenol	< 685	ug/Kg	4/18/2014	15:43
Phenanthrene	**345**	ug/Kg	4/18/2014	15:43
Phenol	< 343	ug/Kg	4/18/2014	15:43
Pyrene	**363**	ug/Kg	4/18/2014	15:43

Method Reference(s): EPA 8270D
EPA 3550C
Data File: S76149.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 15.5	ug/Kg		4/17/2014	12:22
1,1,2,2-Tetrachloroethane	< 15.5	ug/Kg		4/17/2014	12:22
1,1,2-Trichloroethane	< 15.5	ug/Kg		4/17/2014	12:22
1,1-Dichloroethane	< 15.5	ug/Kg		4/17/2014	12:22
1,1-Dichloroethene	< 15.5	ug/Kg		4/17/2014	12:22
1,2,3-Trichlorobenzene	< 38.6	ug/Kg		4/17/2014	12:22
1,2,4-Trichlorobenzene	< 38.6	ug/Kg		4/17/2014	12:22
1,2,4-Trimethylbenzene	< 15.5	ug/Kg		4/17/2014	12:22
1,2-Dibromo-3-Chloropropane	< 77.3	ug/Kg		4/17/2014	12:22
1,2-Dibromoethane	< 15.5	ug/Kg		4/17/2014	12:22
1,2-Dichlorobenzene	< 15.5	ug/Kg		4/17/2014	12:22
1,2-Dichloroethane	< 15.5	ug/Kg		4/17/2014	12:22
1,2-Dichloropropane	< 15.5	ug/Kg		4/17/2014	12:22
1,3,5-Trimethylbenzene	< 15.5	ug/Kg		4/17/2014	12:22
1,3-Dichlorobenzene	< 15.5	ug/Kg		4/17/2014	12:22
1,4-Dichlorobenzene	< 15.5	ug/Kg		4/17/2014	12:22
1,4-dioxane	< 155	ug/Kg		4/17/2014	12:22
2-Butanone	< 77.3	ug/Kg		4/17/2014	12:22
2-Hexanone	< 38.6	ug/Kg		4/17/2014	12:22
4-Methyl-2-pentanone	< 38.6	ug/Kg		4/17/2014	12:22
Acetone	< 77.3	ug/Kg		4/17/2014	12:22
Benzene	< 15.5	ug/Kg		4/17/2014	12:22
Bromochloromethane	< 38.6	ug/Kg		4/17/2014	12:22
Bromodichloromethane	< 15.5	ug/Kg		4/17/2014	12:22
Bromoform	< 38.6	ug/Kg		4/17/2014	12:22
Bromomethane	< 15.5	ug/Kg		4/17/2014	12:22

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier: BH-8 5-8 Foot
Lab Sample ID: 141430-03 **Date Sampled:** 4/11/2014
Matrix: Soil **Date Received:** 4/14/2014

Carbon disulfide	< 15.5	ug/Kg	4/17/2014	12:22
Carbon Tetrachloride	< 15.5	ug/Kg	4/17/2014	12:22
Chlorobenzene	< 15.5	ug/Kg	4/17/2014	12:22
Chloroethane	< 15.5	ug/Kg	4/17/2014	12:22
Chloroform	< 15.5	ug/Kg	4/17/2014	12:22
Chloromethane	< 15.5	ug/Kg	4/17/2014	12:22
cis-1,2-Dichloroethene	**23.4**	ug/Kg	4/17/2014	12:22
cis-1,3-Dichloropropene	< 15.5	ug/Kg	4/17/2014	12:22
Cyclohexane	< 77.3	ug/Kg	4/17/2014	12:22
Dibromochloromethane	< 15.5	ug/Kg	4/17/2014	12:22
Dichlorodifluoromethane	< 15.5	ug/Kg	4/17/2014	12:22
Ethylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
Freon 113	< 15.5	ug/Kg	4/17/2014	12:22
Isopropylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
m,p-Xylene	< 15.5	ug/Kg	4/17/2014	12:22
Methyl acetate	< 15.5	ug/Kg	4/17/2014	12:22
Methyl tert-butyl Ether	< 15.5	ug/Kg	4/17/2014	12:22
Methylcyclohexane	< 15.5	ug/Kg	4/17/2014	12:22
Methylene chloride	< 38.6	ug/Kg	4/17/2014	12:22
Naphthalene	< 38.6	ug/Kg	4/17/2014	12:22
n-Butylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
n-Propylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
o-Xylene	< 15.5	ug/Kg	4/17/2014	12:22
p-Isopropyltoluene	< 15.5	ug/Kg	4/17/2014	12:22
sec-Butylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
Styrene	< 38.6	ug/Kg	4/17/2014	12:22
tert-Butylbenzene	< 15.5	ug/Kg	4/17/2014	12:22
Tetrachloroethene	< 15.5	ug/Kg	4/17/2014	12:22

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141430

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda

Sample Identifier:	BH-8 5-8 Foot		
Lab Sample ID:	141430-03	**Date Sampled:**	4/11/2014
Matrix:	Soil	**Date Received:**	4/14/2014

Toluene	< 15.5	ug/Kg	4/17/2014	12:22
trans-1,2-Dichloroethene	< 15.5	ug/Kg	4/17/2014	12:22
trans-1,3-Dichloropropene	< 15.5	ug/Kg	4/17/2014	12:22
Trichloroethene	**168**	ug/Kg	4/17/2014	12:22
Trichlorofluoromethane	< 15.5	ug/Kg	4/17/2014	12:22
Vinyl chloride	< 15.5	ug/Kg	4/17/2014	12:22

Method Reference(s): EPA 8260C
EPA 5035A

Data File: x12621.D

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.

Analytical Report Appendix

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

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

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

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

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

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

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	PANAMERICAN	CLIENT:	SAME	141430
ADDRESS:	2390 CLINTON ST.	ADDRESS:		Quotation #:
CITY:	BUFFALO STATE: N.Y. ZIP: 14227	CITY: STATE: ZIP:		Email:
PHONE:	716-821-1650	PHONE:		
ATTN:	PETER GORTON	ATTN:		

PROJECT REFERENCE

31 TONAWANDA

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	8260 VOC	8270 TCL	PT 13's Metals	PCB's & Pesticides	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	4-11-14	1025		X	BH-3 0.5-1 FOOT	SO	1	X	X	X	X	BROWNFIELDS HOLD	
2	4-11-14	1125		X	BH-5 9-12 FOOT	SO	1	X	X	X	X	400 PPM PID, ODOR	01
3	4-11-14	1225		X	BH-7 9-12 FOOT	SO	1	X	X	X	X	SLIGHT FUEL OIL ODOR	02
4	4-11-14	125		X	BH-8 5-8 FOOT	SO	1	X	X	X	X		03
5	4-11-14	225		X	BH-10 3-5 FOOT	SO	1	X	X	X	X	HOLD	
6													
7												CAN BE HOLD	
8													
9													
10												3°C iced	

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: Peter Gorton	Date/Time: 4-11-14	225
Relinquished By: Peter Gorton	Date/Time: 4-11-14	540
Received By: John Hoff	Date/Time: 4/11/14	5:40
Received @ Lab By:	Date/Time: 4/14/14	1341

Total Cost:

P.I.F.

Chain of Custody Supplement

Client: Panamerican **Completed by:** SSL

Lab Project ID: 141430 **Date:** 4/14/14

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	X 5035	
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		
Comments	3°C iced		
Sufficient Sample Quantity	X		
Comments			

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

Panamerican Environmental Consultants

For Lab Project ID

143940

Referencing

31 Tonawanda Phase 3

Prepared

Friday, September 19, 2014

This report has been re-issued to include the full list of volatile compounds, per client request.

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143940

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda Phase 3

Sample Identifier: BH5-3N
Lab Sample ID: 143940-01 **Date Sampled:** 9/9/2014
Matrix: Soil **Date Received:** 9/10/2014

Total Cyanide

Analyte	Result	Units	Qualifier	Date Analyzed
Cyanide, Total	<0.82	mg/Kg		9/18/2014

Method Reference(s): EPA 9012
Subcontractor ELAP ID: 10709

Semi-Volatile Organics (PAHs)

Analyte	Result	Units	Qualifier	Date Analyzed	
Acenaphthene	**39200**	ug/Kg		9/17/2014	09:54
Acenaphthylene	**12800**	ug/Kg		9/17/2014	09:54
Anthracene	**60700**	ug/Kg		9/17/2014	09:54
Benzo (a) anthracene	**48900**	ug/Kg		9/17/2014	09:54
Benzo (a) pyrene	**47400**	ug/Kg		9/17/2014	09:54
Benzo (b) fluoranthene	**24200**	ug/Kg		9/17/2014	09:54
Benzo (g,h,i) perylene	**19500**	ug/Kg		9/17/2014	09:54
Benzo (k) fluoranthene	**25300**	ug/Kg		9/17/2014	09:54
Chrysene	**53200**	ug/Kg		9/17/2014	09:54
Dibenz (a,h) anthracene	< 11300	ug/Kg		9/17/2014	09:54
Fluoranthene	**83100**	ug/Kg		9/17/2014	09:54
Fluorene	**36000**	ug/Kg		9/17/2014	09:54
Indeno (1,2,3-cd) pyrene	**16600**	ug/Kg		9/17/2014	09:54
Naphthalene	< 11300	ug/Kg		9/17/2014	09:54
Phenanthrene	**142000**	ug/Kg		9/17/2014	09:54
Pyrene	**137000**	ug/Kg		9/17/2014	09:54

Method Reference(s): EPA 8270D
EPA 3550C
Data File: B00385.D

Report Prepared Friday, September 19, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143940

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda Phase 3

Sample Identifier: BH5-3N
Lab Sample ID: 143940-01 **Date Sampled:** 9/9/2014
Matrix: Soil **Date Received:** 9/10/2014

Volatile Organics (BTEX)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 13.4	ug/Kg		9/15/2014 17:52
1,1,2,2-Tetrachloroethane	**40.6**	ug/Kg		9/15/2014 17:52
1,1,2-Trichloroethane	**36.9**	ug/Kg		9/15/2014 17:52
1,1-Dichloroethane	< 13.4	ug/Kg		9/15/2014 17:52
1,1-Dichloroethene	< 13.4	ug/Kg		9/15/2014 17:52
1,2,3-Trichlorobenzene	< 33.5	ug/Kg		9/15/2014 17:52
1,2,4-Trichlorobenzene	< 33.5	ug/Kg		9/15/2014 17:52
1,2,4-Trimethylbenzene	**47.8**	ug/Kg		9/15/2014 17:52
1,2-Dibromo-3-Chloropropane	< 66.9	ug/Kg		9/15/2014 17:52
1,2-Dibromoethane	< 13.4	ug/Kg		9/15/2014 17:52
1,2-Dichlorobenzene	< 13.4	ug/Kg		9/15/2014 17:52
1,2-Dichloroethane	< 13.4	ug/Kg		9/15/2014 17:52
1,2-Dichloropropane	< 13.4	ug/Kg		9/15/2014 17:52
1,3,5-Trimethylbenzene	**40.7**	ug/Kg		9/15/2014 17:52
1,3-Dichlorobenzene	< 13.4	ug/Kg		9/15/2014 17:52
1,4-Dichlorobenzene	< 13.4	ug/Kg		9/15/2014 17:52
1,4-dioxane	**1080**	ug/Kg		9/15/2014 17:52
2-Butanone	**104**	ug/Kg		9/15/2014 17:52
2-Hexanone	< 33.5	ug/Kg		9/15/2014 17:52
4-Methyl-2-pentanone	< 33.5	ug/Kg		9/15/2014 17:52
Acetone	**402**	ug/Kg		9/15/2014 17:52
Benzene	< 13.4	ug/Kg		9/15/2014 17:52
Bromochloromethane	< 33.5	ug/Kg		9/15/2014 17:52
Bromodichloromethane	< 13.4	ug/Kg		9/15/2014 17:52
Bromoform	< 33.5	ug/Kg		9/15/2014 17:52
Bromomethane	< 13.4	ug/Kg		9/15/2014 17:52

Report Prepared Friday, September 19, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143940

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda Phase 3

Sample Identifier:	BH5-3N		
Lab Sample ID:	143940-01	**Date Sampled:**	9/9/2014
Matrix:	Soil	**Date Received:**	9/10/2014

Carbon disulfide	< 13.4	ug/Kg	9/15/2014	17:52
Carbon Tetrachloride	< 13.4	ug/Kg	9/15/2014	17:52
Chlorobenzene	< 13.4	ug/Kg	9/15/2014	17:52
Chloroethane	< 13.4	ug/Kg	9/15/2014	17:52
Chloroform	< 13.4	ug/Kg	9/15/2014	17:52
Chloromethane	< 13.4	ug/Kg	9/15/2014	17:52
cis-1,2-Dichloroethene	**26.2**	ug/Kg	9/15/2014	17:52
cis-1,3-Dichloropropene	< 13.4	ug/Kg	9/15/2014	17:52
Cyclohexane	< 66.9	ug/Kg	9/15/2014	17:52
Dibromochloromethane	< 13.4	ug/Kg	9/15/2014	17:52
Dichlorodifluoromethane	< 13.4	ug/Kg	9/15/2014	17:52
Ethylbenzene	< 13.4	ug/Kg	9/15/2014	17:52
Freon 113	< 13.4	ug/Kg	9/15/2014	17:52
Isopropylbenzene	**13.6**	ug/Kg	9/15/2014	17:52
m,p-Xylene	**26.1**	ug/Kg	9/15/2014	17:52
Methyl acetate	< 13.4	ug/Kg	9/15/2014	17:52
Methyl Chloride	< 3.18	ug/Kg	9/15/2014	17:52
Methyl tert-butyl Ether	< 13.4	ug/Kg	9/15/2014	17:52
Methylcyclohexane	**22.4**	ug/Kg	9/15/2014	17:52
Methylene chloride	< 33.5	ug/Kg	9/15/2014	17:52
Naphthalene	**97.9**	ug/Kg	9/15/2014	17:52
n-Butylbenzene	**35.2**	ug/Kg	9/15/2014	17:52
n-Propylbenzene	< 13.4	ug/Kg	9/15/2014	17:52
o-Xylene	**30.2**	ug/Kg	9/15/2014	17:52
p-Isopropyltoluene	< 13.4	ug/Kg	9/15/2014	17:52
sec-Butylbenzene	< 13.4	ug/Kg	9/15/2014	17:52
Styrene	< 33.5	ug/Kg	9/15/2014	17:52
tert-Butylbenzene	< 13.4	ug/Kg	9/15/2014	17:52

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143940

Client: **Panamerican Environmental Consultants**

Project Reference: 31 Tonawanda Phase 3

Sample Identifier: BH5-3N
Lab Sample ID: 143940-01 **Date Sampled:** 9/9/2014
Matrix: Soil **Date Received:** 9/10/2014

Tetrachloroethene	< 13.4	ug/Kg	9/15/2014	17:52
Toluene	< 13.4	ug/Kg	9/15/2014	17:52
trans-1,2-Dichloroethene	< 13.4	ug/Kg	9/15/2014	17:52
trans-1,3-Dichloropropene	< 13.4	ug/Kg	9/15/2014	17:52
Trichloroethene	**167**	ug/Kg	9/15/2014	17:52
Trichlorofluoromethane	< 13.4	ug/Kg	9/15/2014	17:52
Vinyl chloride	< 13.4	ug/Kg	9/15/2014	17:52

Method Reference(s): EPA 8260C
EPA 5035A
Data File: x16835.D

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.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

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

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

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

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

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

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

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"Non-ELAP Certifiable" = ELAP does not offer this parameter for approval as part of their laboratory certification program.*

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

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	PANAMERICAN ENV.	CLIENT:	SAME	143940
ADDRESS:	2390 CLINTON ST	ADDRESS:		Quotation #:
CITY:	BUFFALO STATE: NY ZIP: 14227	CITY: STATE: ZIP:		Email:
PHONE:	716-821-1650	PHONE:		
ATTN:	PETER J. GORTON	ATTN:		

PROJECT REFERENCE

31 TONAWANDA PHASE 3

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	8260 BTEX	8260 PAH	8260 TCL	8260 TCL SSL 9/10	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9-9-14	340		X	BH5 - 3N	Soil per visual SSL 9/10	1	X	XX			ANALYSE FOR SOLVENTS + COAL TAR CALL TO DISCUSS HALOGENS By 8260 QC P. GORTON REPORT all VOCs 2°C lead TB KRH 9/9/14 (Not needed DF 9/10 SSL 9/10)	01
2													
3													
4													
5													
6													
7													
8													
9													
10													

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By	PETER J. GORT 9-9-14 340	Date/Time
Relinquished By	9-10-14 830	Date/Time
Received By	9-10-14 830	Date/Time
Received @ Lab By	9/10/14 1319	Date/Time

Total Cost:

P.I.F.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Chain of Custody Supplement

Client: Panamerican **Completed by:** SSL

Lab Project ID: 1413940 **Date:** 9/10/14

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	X 5035	
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		
Comments	2°C iced by temp blank		
Sufficient Sample Quantity	X		
Comments			

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

ADIRONDACK: ELAP ID: 10709

CHAIN OF CUSTODY

140911020

REPORT TO:		INVOICE TO:	
COMPANY:	Paradigm Environmental	COMPANY:	Same
ADDRESS:		ADDRESS:	
CITY:	STATE: ZIP:	CITY:	STATE: ZIP:
PHONE:	FAX:	PHONE:	FAX:
ATTN:	Kate Hansen	ATTN:	Meridith Dillman
COMMENTS:	Please email results to khansen@paradigmenv.com and jdaloia@paradigmenv.com		

LAB PROJECT #:

CLIENT PROJECT #:

TURNAROUND TIME: (WORKING DAYS)

STD [X] 5 OTHER [ ] 1 [ ] 2 [ ] 3

Date Due: 9/18/14

PROJECT NAME/SITE NAME:

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	8260	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9/9/14	1340			143940-01	Soil	1	X		001
2										
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:	not from TEG	Y [ ]	N [ ]
Comments:			
Preservation:	@	Y [/]	N [ ]
Comments:			
Holding Time:		Y [/]	N [ ]
Comments:			
Temperature:	6°C	Y [ ]	N [ ]
Comments:			

Client

Sampled By — Date/Time

Relinquished By — 9/10/14 11:00 — Date/Time

Total Cost:

Received By — UPS — Date/Time

P.I.F.

Received @ Lab By — 9-11-14 10:45 AM — Date/Time