Exhibit 5
GM-OU-4 Public Hearing
April 9, 2020

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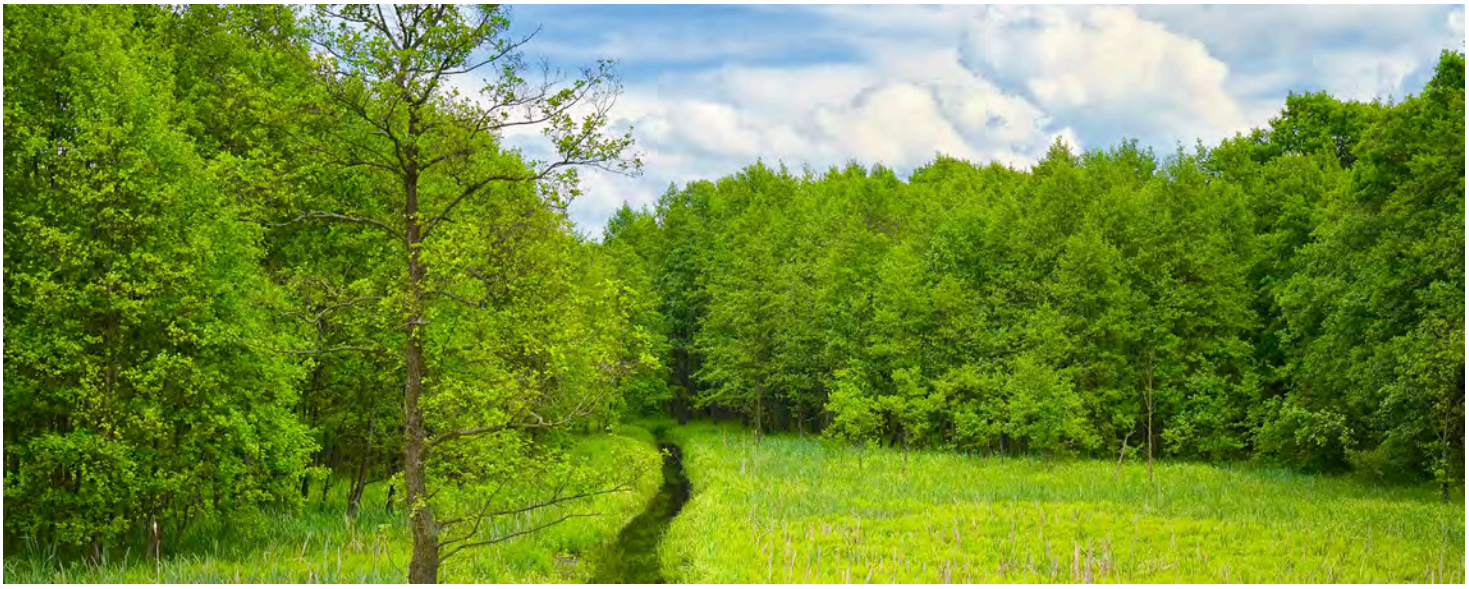

Remedial Investigation Report

Former GM Wilmington Assembly Plant
Wilmington, Delaware

Prepared for: RACER Trust

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July 2015 • 017338 • Report No. 20

Partners in Sustainability

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Disclaimer – Please note, Conestoga-Rovers & Associates (CRA) changed its name to GHD Services Inc. on July 1, 2015. This document was originally submitted under the CRA name prior to this date. However, in the interest of continuity, the CRA name will remain on this document after July 1, 2015.

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July 2015 ● 017338 ● Report No. 20

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List of Acronyms and Short Forms

AMSL	Above Mean Sea Level
AOI	Area of Interest
AST	Aboveground Storage Tank
BCOC	Bioaccumulative Constituent of Concern
bgs	below ground surface
BTEX	Benzene, toluene, ethyl benzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COPC	Chemical of Potential Concern
COPEC	Constituent of Potential Ecological Concern
CRA	Conestoga-Rovers & Associates
CSM	Conceptual Site Model
CSF	Cancer Slope Factor
DNREC	Department of Natural Resources and Environmental Control
EBI	Environmental Baseline Investigation
EPC	Exposure Point Concentration
ERA	Ecological Risk Assessment
ESA	Environmental Site Assessment
ESL	Ecological Screening Level
ESV	Ecological Screening Value
Fisker	Fisker Automotive, Inc.
FS	Feasibility Study
GM Corporation	General Motors Corporation
HHRA	Human Health Risk Assessment
HI	Hazard Index
HMW	High Molecular Weight
LMW	Low Molecular Weight
MLC	Motors Liquidation Company
Mod	Modular
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
OU	Operational Unit
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
QA/QC	Quality Assurance/Quality Control
RACER	Revitalizing Auto Communities Environmental Response Trust
RB	Refinement Benchmark
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
SIRB	Site Investigation and Restoration Branch
SQB	Sediment Quality Benchmark
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List

List of Acronyms and Short Forms

TPH	Total Petroleum Hydrocarbons
UCL	Upper Confidence Limit
URS	Uniform Risk-Based Standard
UST	Underground Storage Tank
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WWTP	Waste Water Treatment Plant

Section 1.0 Introduction

1.1 Purpose of Report

Conestoga-Rovers & Associates (CRA), on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER Trust), has prepared this Remedial Investigation (RI) Report to document the RI activities at the former General Motors (GM) Corporation Wilmington Assembly Plant located in Wilmington, Delaware [United States Environmental Protection Agency (USEPA) ID DED 002369205] (Facility or Site).

CRA prepared a RI Work Plan dated August 2011 (CRA, 2011a)and an Addendum to the RI Work Plan dated September 7, 2011 (CRA, 2011b). The Delaware Department of Natural Resources and Environmental Control (DNREC) approved the work plan and addendum in a letter to RACER dated October 20, 2011 (DNREC, 2011). Field activities began in the fall of 2011. Based on the results from the Fall 2011 activities, CRA prepared a Supplemental RI Work Plan dated July 27, 2012 (CRA, 2012). The supplemental RI work was completed in the Fall of 2012. During the supplemental RI activities off-Site impacts were identified along the eastern portion of the Facility boundary. BrightFields, Inc. (BrightFields) was retained by RACER to investigate and delineate the off-Site impacts. BrightFields conducted investigation activities from the Winter of 2012 through Spring of 2014. At the request of DNREC CRA prepared a Supplemental RI Work Plan for OU-6 dated September 29, 2014 (CRA, 2014a) to guide additional RI activities at the wooded area at the northeast corner of the Site. The activities were completed in the fall of 2014.

The primary objectives of the RI were to:

- Characterize the Facility and the actual or potential risk to human health and the environment
- Identify sources of contamination and evaluate the nature and extent of hazardous waste and/or hazardous waste constituents in environmental media at the Site
- Provide sufficient data to develop a conceptual site model (CSM) and complete a Risk Assessment
- Determine the need for further action to mitigate current and future unacceptable risk, if any, to human health and the environment

The activities documented herein were completed based on the approved work plans to assess the nature and extent of impacts associated with the Site as a result of GM Corporation's historical operations by investigating Areas of Interest (AOIs) as described further in Section 1.3 and Section 3.0.

1.2 Facility Background

1.2.1 Facility Description and History

The Facility consists of the property located at 801 Boxwood Road, New Castle County, Wilmington, Delaware. The Facility currently consists of approximately 142 acres of land, including the approximately 3.2 million square foot Main Assembly Building, and several outlying buildings and structures [e.g., Waste Water Treatment Plant (WWTP), Pump Houses, and Powerhouse]. The Facility was developed in 1945 by GM Corporation for the purpose of automobile assembly. GM Corporation commenced operations at the Facility in 1946 and continued automobile assembly operations until July 2009 when the plant was idled. The Facility location is presented on Figure 1.1. The Facility layout is presented on Figure 1.2.

As a result of GM Corporation's 2009 bankruptcy, certain operating assets of GM Corporation were sold on July 10, 2009 to a newly formed company now known as General Motors LLC. Existing non-continuing assets, including the Site, remained the property of GM Corporation which was known as Motors Liquidation Company (MLC), in its capacity as debtor-in-possession in the bankruptcy case. The Site was sold by MLC to Fisker Automotive, Inc. (Fisker) in July 2010. However, MLC retained liability for the remediation of the Site. In October of 2010, the United States Government announced that MLC had agreed to resolve its liabilities at 89 sites relating to liabilities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and the Clean Air Act through an environmental response trust fund. On March 31, 2011, the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) became effective and is conducting, managing, and funding cleanup at the 89 sites formerly owned by MLC, including the former Wilmington Assembly Plant.

Between July 2009 and April 2014, the plant remained idle with limited activities present at the Site while Fisker evaluated opportunities to revive the assembly plant. The Site was purchased by Wanxiang Delaware in April 2014 as part of a purchase by Wanxiang Group of Fisker's assets. At this time, the Site remains idle while Wanxiang evaluates opportunities for the Site under Fisker Automotive and Technology LLC.

1.2.2 Previous Investigations

Previously documented Site investigations have been conducted since at least 1990. Investigations included, but were not limited to, the bulk product tank areas [i.e., Operable Unit 1 (OU-1) and Operable Unit 2 (OU-2)], aboveground storage tank (AST) and underground storage tank (UST)closures and documented spills/releases.

Table 1.1 presents a chronological summary of previous major environmental investigations conducted at the Facility.

Table 1.2 presents a chronological summary of previous and ongoing remedial actions conducted at the Facility.

1.3 Areas of Interest

AOIs investigated as part of this RI include Recognized Environmental Conditions (RECs) identified by CRA during a Phase I Environmental Site Assessment (ESA) conducted in 2009 (CRA, 2011c) and other areas targeted for investigation by the DNREC as a result of their review of historical Site information and the results of BrightFields Environmental Baseline Investigation (EBI).

A total of 26 AOIs and three additional investigation areas have were identified at the Site as summarized in Table 1.3. The approximate locations of the AOIs and additional investigation areas are presented on Figure 1.3. For purposes of the human health risk assessment (HHRA), the AOIs were divided into several exposure areas or Operable Units (OUs) to evaluate the RI soil data while the Site groundwater was evaluated on a Site-wide basis. The AOIs and boundaries of the OUs are shown on Figure 1.3.

1.4 Report Organization

The RI Report is organized in the following sections:

1.0 Introduction

This section presents an introduction, Facility background information, and report organization.

2.0 Site Physical Characteristics

This section summarizes general conditions at the Site, including the Site location, operational history, geology, hydrogeology, surface water hydrology, meteorology, demography and land use, and ecology.

3.0 AOIs and Investigation Activities

This section provides background information on the AOIs, a summary of activities and results at each AOI, and a discussion of impacts to environmental media at the Site.

4.0 Nature and Extent of Contamination

This section describes the nature and extent of the environmental impacts of the Site relative to soil, groundwater and surface water.

5.0 Conceptual Site Model

This section discusses potential routes of migration, contaminant persistence, and contaminant migration.

6.0 Baseline Risk Assessment

This section provides the human evaluation and ecological assessment.

7.0 Summary and Conclusions

This section summarizes the results of the investigation and human health assessment and ecological assessment, identifies data limitations and presents recommendations for future work.

8.0 References

This section provides a list of documents referenced in the preparation of this Work Plan.

Section 2.0 Site Physical Characteristics

2.1 Operational History

GM Corporation was the sole owner and operator at the Site from the time the former Wilmington facility was built in 1945 until GM Corporation's bankruptcy in 2009 when GM Corporation became known as MLC. The plant was idled in July of 2009. The Site was sold to Fisker in July of 2010 and was then purchased by Wanxiang Delaware in April 2014. The Site has remained idle throughout the ownership by Fisker and Wanxiang. All manufacturing operations conducted at the Site have been associated with automotive assembly.

Detailed information on historical operations and waste management practices that could impact environmental media at the Site was provided in the approved RI Work Plan and included:

- Raw material usage and storage
- ELPO Areas (painting)
- Phosphate tanks

- Anchor Building and associated fueling and vehicle maintenance operations
- Above ground storage tanks
- Underground storage tanks
- Hazardous waste
- Solid and special waste
- Wastewater and sewers
- Stormwater
- Polychlorinated biphenyls
- Air emissions
- Spill and releases

2.2 Geology

Cross sections of geology across the Site were generated based on the soil stratigraphic log data from the 2011-2012 RI investigation activities. Figure 2.1 is a plan view showing the locations of the cross sections. Cross sections A-A' through D-D' are depicted on Figure 2.2 through Figure 2.5.

A review of soil borings advanced during the investigation shows the soils at the Site to be fill-underlain by unconsolidated sediments consisting primarily of silty sands and clays, from below the paved surface to a depth of approximately 8 to 10 feet below ground surface (bgs). Gravel lenses are seen ranging in thickness from 1 to 10 feet at varying depths across the Site. A review of historical soil boring logs from previous investigations indicates that there appears to be a continuous sand layer ranging from 16 to 30 feet in thickness with starting depths ranging from approximately 7.8 feet bgs to 11.5 feet bgs and extending to depths ranging from approximately 23.8 feet bgs to 40 feet bgs. The historical logs also indicate that the sand layer is underlain by reddish-brown clay of an undetermined thickness.

The natural soils present in this area are associated with the Cretaceous Age [65-136 million years (MY)] Potomac Formation. The Potomac Formation is principally variegated silt and/or clay with interbedded quartzitic sands. The Potomac Formation consists of deltaic fluvial deposits that rest uncomfortably upon Precambrian-Age (> 570 MY) basement rock, which is considered to be the Wilmington Complex gneiss in the vicinity of the Site. The thickness of the Potomac Formation on-Site is unknown; however published literature indicates that the Potomac Formation can be relatively thin (less than 50 feet) in areas near the Fall Line, as is the case with this Site. The Fall Line represents a lineament (fault) separating the igneous and metamorphic rocks of the Piedmont Province from the unconsolidated, flat-lying sediments of the Atlantic Coastal Plain.

2.3 Hydrogeology

On-Site, groundwater was observed at an average depth of approximately 12 feet bgs during the 2011 to 2013 RI. Groundwater elevations recorded between September/November 2012 through September 2013 are provided in Table 2.1. Groundwater contours from the most recent and complete hydraulic monitoring event (i.e., June 2013) are provided on Figure 2.6. The plant appears to create a groundwater divide at the site with groundwater on the east side flowing to the east toward Little Mill Creek and groundwater on the west side flowing to the west towards Red Clay Creek.

According to Facility personnel interviewed during the 2009 Phase I ESA, there was no historical use of Facility groundwater for potable or non-potable purposes. At the time of Facility inspections conducted in 2009, there was no visual evidence suggesting that potable water, production, or irrigation wells were located at the Facility. There are two groundwater sumps, one on the east side and one on the north side of the modular (Mod) Paint Building that dewater the area in the vicinity of the Mod Paint Building. According to Facility personnel, the sumps are approximately 30 to 40 feet deep. Groundwater in the sumps is pumped and discharged to the storm sewer discharge system located on northeastern side of the Facility. The sumps are operated manually as needed.

A review of the DNREC Technology Enabled Permitting Process (TEPP), well completion reports, and well abandonment reports, indicates that there are potentially 14 water well locations within a 2-mile radius of the Facility as shown on Figure 2.7. It should be noted that the locations of two of the water wells could not be identified through the TEPP data but, based on the information that is available; it is believed that these wells are located at least 1 mile from the Facility. Details from the relevant well completion reports are provided in Table 2.2 including details on the well use, desired capacity, screen depth, address, casing diameter, completion date, well location, and approximate distance to the Facility. Water well information accessed through the DNREC TEPP is provided in Appendix A.

As part of the vapor intrusion and groundwater delineation investigation at AOI-16, BrightFields conducted an assessment to identify the residential and commercial addresses within proximity of the former UST area and to determine whether public water service or private wells were used. The evaluation focused on the properties located within a two-block area east of the Site (AOI-16). BrightFields contacted Artesian Resources Corporation (Artesian), the local water supplier, and based on the information provided to BrightFields, there were no private wells reported to currently be in use in the assessment area. There was a record of one historical well at 19 Read Ave. that was sealed approximately 30 years ago.

2.4 Surface Water Hydrology

Surface water flow across the Facility is directed to the Facility storm sewer system, which discharges to Little Mill Creek at Outfall 001 under a National Pollutant Discharge Elimination System (NPDES) Permit No. DE0000523. The NPDES Permit, which is held by the current property owner, requires continuous flow monitoring, weekly pH monitoring, monthly monitoring for biochemical oxygen demand (BOD), total lead, hardness as calcium carbonate, and oil & grease. Enterococcus is monitored twice per month. Total zinc is monitored quarterly and biomonitoring is conducted semiannually. The discharge must also be free from floating solids, sludge deposits, debris, oil, and scum. Outfall 001 is the only point of discharged covered by the permit.

According to a University of Delaware study (University of Delaware, 2001), with the exception of Little Mill Creek, there are no surface water bodies or waterways (streams, rivers, lakes, etc.), including associated wetlands, floodplains, and riparian zones present on-Facility or immediately adjacent to the Facility.

Little Mill Creek is located in the wooded area along the eastern property boundary. Approximately 1,000 feet of this creek is located within the Facility boundary. Little Mill Creek discharges to the Christiana River approximately 1 mile downstream. Red Clay Creek is located approximately 1.1 miles west of the Facility and also discharges to the Christiana River. The Christiana River is the major river draining this portion of New Castle County. There are no lakes or significant ponds within one mile of the Facility.

2.5 Meteorology

The average total precipitation in Wilmington, Delaware is approximately 49.43 inches with a peak of 5.36 inches in July. The average temperature in Wilmington, Delaware is 62.7 degrees Fahrenheit (^{O}F) with an average low of 25 ^{O}F in January and an average high of 85 ^{O}F in July.

The average wind speed is 7.5 knots from the west.

2.6 Demography and Land Use

According to the 2010 census, there are 70,851 people and 29,293 households residing in Wilmington, Delaware. The population density is 6,497.7 per square mile.

The Facility is located at an elevation of between approximately 75 and 80 feet above mean sea level (AMSL). The Facility is relatively flat with a gradual decrease in elevation towards the north and east.

The Facility is zoned as heavy industrial on New Castle County's Official Zoning Map No. 36 and was operated as an automobile assembly plant until July of 2009. The plant is currently under the ownership and operational control of Wanxiang. Key Facility features include the Main Assembly Building, ancillary buildings, WWTP rail spur, bulk product tank farms, and employee parking. A wooded parcel is located at the north-eastern portion of the Facility.

The Facility is located in a mixed commercial and residential area of Wilmington, Delaware with a railroad switching yard located to the north of the Facility, a multi-lane divided highway to the west of the Facility, and residential land use to the south and east of the Facility as further discussed below.

The Facility is bounded to the north by a Baltimore & Ohio Railroad switching yard. A rail spur enters the Facility from the north towards the east of the Facility, just east of the Tire Building, for the delivery of various automobile parts.

The Facility is bounded to south by Boxwood Road. South of Boxwood Road is a residential area that includes two parcels of land originally purchased by GM Corporation for expansion of the Facility south of Boxwood Road. These parcels were sold by GM Corporation in 1995 and are under development for residential purposes.

The Facility is bounded to the east by a residential area along the southern portion of the eastern Facility boundary. The remaining eastern property boundary is bounded by a forested area and swim club facility.

The Facility is bounded to the west by Centerville Road. West of Centerville Road are commercial properties including an automobile repair shop (Hicks Auto), safety material supplier store (DP Fire and Safety), a building material supplier (Delaware Brick Co.), and a garden supply store (J&J System). To the west of the commercial properties is a multi-lane divided highway (State Route 141).

2.7 Ecology

The vast majority of the Site assessment area is covered with buildings, pavement, and other man-made surfaces. A few areas of maintained lawn are adjacent to some of the buildings and parking fields. A few mature trees are present in the lawn area of the main entrance on Boxwood Road. These areas of lawn and trees small and isolated and provide minimal habitat for ecological receptors.

A large area of mature forest, 15.3 acres in size, is present east of the northeastern portion of the Site. Little Mill Creek enters the north central portion of the forested area and flows in a southeasterly direction and enters into a residential area. Little Mill Creek eventually flows into the Christiana River. The forested area and Little Mill Creek likely provide habitat for a diversity of wildlife species.

An ecological risk assessment (ERA), consisting of Steps 1, 2, and 3a of the USEPA process for conducting ecological risk assessment (USEPA 1997), was conducted for the Site. The details are provided in Section 6.

Section 3.0 AOIs and Investigative Activities

3.1 Areas of Interest (AOIs)

AOIs are those areas identified as RECs during the 2009 Phase I ESA conducted by CRA (CRA, 2010a) or areas identified by DNREC as requiring further investigation by Fisker as part of their EBI and/or by MLC in accordance with DNREC's Investigation and Remediation Cost Estimate dated April 2010.

A total of 26 AOIs were identified at the Site by RACER. Three additional investigation areas were added at the request of Fisker as documented in the Addendum to the Work Plan dated September 7, 2011 and approved by DNREC. The additional areas are the parking lot, USTs D, F, G, and H, and the Outfall 001 Swale. The AOIs and three additional areas were fully described including discussion of previous investigations and/or action and recommended/proposed actions to be conducted under the RI in Section 4 of the RI Work Plan and the Addendum to the RI Work Plan. The AOIs are listed on Table 1.3 and shown on Figure 1.3.

Based on the review of the issues, previous investigations, and actions at each AOI in the approved RI Work Plan, it was determined that further action was not warranted at the following eight AOIs:

- AOI 2 – No. 6 Fuel Oil aboveground storage tank (AST G)
- AOI 3 – Waste Solvent ASTs (ASTs P – Q)
- AOI 8 – WWTP Sump
- AOI 11 – New Hazardous Waste Accumulation Area
- AOI 15 – Grit Separator Building
- AOI 22 – Oil Stained Gravel
- AOI 24 – Solvent ASTs
- AOI 25 – Former Open Ditch

These AOIs were not investigated as part of the RI and are not discussed further in this report. The remaining 18 AOIs and 3 additional areas listed below were investigated as detailed in the RI Work Plan and addendum.

- AOI 1 – No. 6 Fuel Oil (AST F)
- AOI 4 – Kolene AST
- AOI 5 – Diesel Oil UST by Power House
- AOI 6 – Modular Paint Pits and Mixing Sumps / East of Mod Building
- AOI 7 – Acetylene Sludge Pits
- AOI 9 – Hydraulic Lift
- AOI 10 – Old Hazardous Waste Accumulation Area (Former Tank Storage Area)
- AOI 12 – Test Track Waste Storage Area
- AOI 13 – ELPO Areas
- AOI 14 – Phosphate Area
- AOI 16 – Petroleum Dispensing Area
- AOI 17 – Former Petroleum Dispensing Area
- AOI 18 – OU-2 Area
- AOI 19 – Lift Stations (to WWTP)
- AOI 20 – PCB Containing equipment/Oil Stained Areas
- AOI 21 – Railroad Tracks
- AOI 23 – Group 3 UST
- AOI 26 – Outfall 001
- Additional Area – Parking Lot
- Additional Area – USTs D, F, G, and H
- Additional Area – Outfall 001 Swale

Based on the findings of the 2011 activities supplemental investigation activities were conducted as detailed in the July 2012 Supplemental RI Work Plan at the following AOIs:

- AOI 6 – Modular Paint Pits and Mixing Sumps / East of Mod Building
- AOI 10 – Old Hazardous Waste Accumulation Area (Former Tank Storage Area)
- AOI 12 – Test Track Waste Storage Area
- AOI 16 – Petroleum Dispensing Area
- AOI 18 – OU-2 Area
- AOI 23 – Group 3 UST
- AOI 26 – Outfall 001

Additionally, two wells were installed on the south side of the site to assist in defining groundwater flow across the Site.

In 2014, the Wooded Area at the north east corner of the Site was added to AOI-26. Additional investigation activities were conducted in October and November 2014 at AOI 26, including the Wooded Area under the Supplemental Remedial Investigation Work Plan for OU-6 dated September 29, 2014 (CRA, 2014a).

3.2 Remedial Investigation Activities

RI activities were conducted in accordance with the RI Work Plan, the September 7, 2011 Addendum to the RI Work Plan, and the July 27, 2012 Supplemental RI Work Plan. Additional work was conducted in 2014 under the Supplemental Remedial Investigation Work Plan for OU-6 dated September 29, 2014. The sediment and surface water sampling portion of the 2014 work was completed specifically to support the ERA process and is not included in the HHRA. All work was done with DNREC concurrence.

The initial RI investigation activities were conducted in the fall of 2011 and included:

- Installation of 67 soil borings
- Collection and screening (conducted by DNREC) of 145 soil samples for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals (total and dissolved), polychlorinated biphenyls (PCBs) and Pesticides
- Confirmatory laboratory analysis of 39 soil samples (27 percent)
- Installation of 11 groundwater monitoring wells
- Collection and analysis of 18 groundwater samples
- Collection and analysis of 7 sediment samples
- Visual inspections of lift stations and in-ground conveyor systems to determine risk of release

Based on the results of the initial RI, the supplemental RI activities were conducted in the fall of 2012 and included:

- Installation of 57 soil borings
- Collection and field screening of 86 soil samples for metals only using an X-ray fluorescence (XRF) analyzer (54 were retained for potential laboratory analysis)
- Confirmatory analysis of 17 (20 percent) of the screened soil samples
- Installation of 4 groundwater monitoring wells
- Installation of two hydraulic monitoring wells
- Collection of 18 groundwater samples

- Installation of 10 vertical aquifer sample (VAS) locations
- Collection of 40 VAS groundwater samples
- Collection of 5 sediment and 5 surface water samples
- Installation of 5 temporary soil gas probes
- Collection of 5 soil gas and 1 ambient air sample

Based on the findings of the supplemental RI BrightFields conducted RI activities at off-Site locations in the vicinity of Dodson Avenue. BrightFields' report: Vapor Intrusion and Groundwater Delineation Investigation, dated July 2014, detailing the work completed and the results is provided as Appendix B.

The additional work completed in 2014 included:

- Collection of 15 surface (0 to 2 feet bgs) soil samples from the Wooded Area
- Collection of 6 sediment and 7 surface water samples from Outfall-001 and Little Mill Creek
- Installation of monitoring well MW-48
- Collection of 5 groundwater samples

The data generated by the 2014 activities is discussed and evaluated in the ERA. The surface soil data was also evaluated for OU-6 in the HHRA.

The investigative activities conducted at each AOI are summarized in Table 3.1. Site-wide RI sample locations are shown on Figure 3.1. BrightFields sample locations are shown on Figure 3.1 for reference only. Table 3.2 provides a sample summary for each media (i.e., soil, groundwater, sediment, surface water, and soil gas) sampled for each AOI and includes sample IDs, sample dates, sample depth, screening and analytical parameters. Soil boring and monitoring well construction logs are provided as Appendix C.

All soil samples selected for confirmatory laboratory analysis were submitted to TestAmerica Laboratories, Inc. (TestAmerica) located in Edison, New Jersey. Data tables summarizing the analytical results from the RI are provided in Appendix D.

Data quality assurance/quality control (QA/QC) was collected on the samples as required in Section 6.6 of the RI Work Plan. This included the collection of field duplicate samples (1 per 20 or fewer samples), matrix spike/matrix spike duplicate (MS/MSD) samples (1 per 20 or fewer samples), and trip blanks (1 per cooler containing water samples for VOC analysis). Field equipment blanks were not required as dedicated/disposable sampling equipment was used.

The laboratory analytical data was reviewed by a CRA chemist to determine the quality and validity of the data resulting from the collection and analysis of the samples. The laboratory

analytical data is presented in Appendix E. Summary memoranda regarding the data validation is presented in Appendix F.

The data validation was performed in accordance with the requirements of Section 6.7 of the RI Work Plan as approved by DNREC. Data precision and accuracy meets accepted standards and the data contained within this report is appropriate for use and without significant anomalies, with the qualifications noted, for the purposes of this investigation. As part of the data validation, a small portion of analytical results were rejected. The compounds acetone and methyl ethyl ketone (MEK) were rejected. These compounds are known to be "poor responders", and as such require elevated rejection criteria. The *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (U.S. EPA, February 1994) guidelines state that all VOCs (even poor performers) must have a response factor greater than or equal to 0.05. If they do not, positive results are qualified as estimated "J" and non-detect results are rejected. The validation was based on these guidelines which are noted in the approved RI Work Plan.

3.3 Remedial Investigation Supplemental Information

The results of samples collected for laboratory analysis are discussed and presented in Section 4.0, Nature and Extent of Contamination. The following sections provide supplemental information related to RI activities which did not include data collection or which are addressed outside the scope of the RI.

3.3.1 AOI- 16 Petroleum Dispensing Area Extension

AOI-16 (Petroleum Dispensing Area) initially consisted of a petroleum dispensing station located on the northern wall of the southern half of the Anchor Building. Based in the findings of the initial RI, the AOI was expanded to include the area where historical USTs (D, F, and G) were located near the eastern property boundary along Dodson Avenue. The AOI was expanded again based on the results of supplemental RI activities to include privately owned commercial and residential properties east of the Site. The expanded area of AOI-16 is shown on Figure 3.2. Off-Site investigation activities were completed by BrightFields and are presented in BrightFields' Investigation Report provided in Appendix B.

3.3.2 AOI-19 and AOI-20

Visual inspections were conducted of the Lift Stations throughout the Site (AOI-19) and at the in-ground conveyors in the Main Assembly and Mod Paint buildings (AOI-20). The purpose of

the inspections was to determine the condition and assess the potential for an environmental release. The observations from the inspections are presented in Table 3.3.

Section 4.0 Nature and Extent of Contamination

The overall objective of the RI was to define the nature, degree and extent of impact, if any, in the shallow and subsurface soils, groundwater, sediment, surface water, and air, and to assess the potential risks to human health and to the environment. A HHRA and an ERA were completed for the Site. The complete HHRA and ERA reports are provided as Appendices G and H to this report, respectively.

For purposes of the HHRA, the AOIs were divided into several exposure areas or Operable Units (OUs) to evaluate the RI soil data. Groundwater was evaluated on a Site-wide basis. The AOIs and boundaries of the OUs are shown on Figure 1.3. The OUs for soil evaluation are presented below.

OU	***Description***	***AOI Included***
OU-3	Main Assembly Plant Area (excluding OU-1 and OU-2)	AOI-1, 4, 5, 6, 7, 9, 10, 13, 14, 19, 20, 21, and Parking Lot Area
OU-4	Former Petroleum Dispensing and UST Area	AOI-16 17, USTs D, F, G, and H
OU-5	Former Test Track Area	AOI-12 and 23
OU-6	Little Mill Creek/Wooded Area	AOI-26 and Outfall 001

OU-6 includes AOI-26-Outfall-001 Little Mill Creek/Wooded Area. Sediments, surface water, and surface soil were evaluated for OU-6 for the purposes of supporting the ERA.

In 2004, DNREC issued a No Further Action (NFA) for OU-1 and therefore, further evaluation of OU-1 in the HHRA was not required. Investigation activities in the OU-2 Area resulted in approval of the document entitled "Report of Findings for OU-2 Bulk Product Area Tanks Soil Investigation", which requested written concurrence from DNREC that NFA is appropriate with regards to the soil in the OU-2 Area (CRA, 2006a). Based on subsequent discussions with DNREC Site Investigation and Restoration Branch (SIRB), a NFA letter for the OU-2 Area soil will be issued once groundwater conditions within the OU-2 Area are addressed. For the purposes of the HHRA and at the recommendation provided by DNREC in response to the HHRA Work Plan, CRA evaluated the combined groundwater data from the entire Site (Site-Wide

Groundwater), as indicated below. Therefore, separate evaluation of OU-2 in the HHRA was not required. The OU-2 groundwater is discussed in Section 6.0.

As part of the HHRA data collected during the RI was screened against the DNREC SIRS Screening Level Table issued in January 1, 2013 and updated October 2014 (screening criteria or screening levels) (DNREC, 2014) to develop a list of chemicals of potential concern (COPCs) for each OU. Table 4.1 provides the list of COPCs for each OU. The details of the COPC screening are discussed in the HHRA provided as Appendix G.

It is important to note that, as discussed in Section 3.2, some non-detect data was rejected during the data validation process consistent with the validation guidelines. COPC screening was completed against all detected values and the two constituents which had rejected data (i.e., acetone and MEK) were not detected in the data set and were not carried forward as COPCs as discussed in the following subsections. Therefore, the rejected data has not impact on the COPC screening or HHRA outcome.

4.1 OU-3 COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for OU-3.

<u>Surface Soil (0 to 2 feet bgs)</u>

SVOCs

- benzo(a)pyrene

Metals

- antimony
- arsenic
- cobalt
- lead
- manganese
- mercury
- nickel

<u>Subsurface Soil (2 to 10 feet bgs)</u>

Metals

- antimony
- arsenic

- cobalt
- manganese

OU-3 soil sample results for non-metal and metal COPC parameters exceeding screening criteria are presented on Figures 4.1 and 4.2 respectively.

4.2 OU-4 COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for OU-4.

Surface Soil (0 to 2 feet bgs)

Metals

- cobalt
- manganese

Subsurface Soil (2 to 10 feet bgs)

SVOCs

- 2-methylnaphthalene

OU-4 soil sample results for non-metal and metal COPC parameters exceeding screening criteria are presented on Figures 4.3 and 4.4 respectively.

4.3 OU-5 COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for OU-5.

Surface Soil (0 to 2 feet bgs)

VOCs

- 1,4-dichlorobenzene
- Ethylbenzene
- xylenes (total)

SVOCs

- 2-methylnaphthalene
- benzo(a)pyrene
- naphthalene

Metals

- antimony
- arsenic
- barium
- cadmium
- chromium
- cobalt
- copper
- iron
- lead
- manganese
- mercury
- nickel
- selenium
- thallium
- vanadium
- zinc

Thallium was only detected in the soil samples analyzed using XRF screening. Since only laboratory analyzed data were used for calculating human health risks and thallium was not detected in the laboratory analyzed data, thallium was not carried through the HHRA as a COPC for OU-5 surface soil.

Subsurface Soil (2 to 10 feet bgs)

Metals

- antimony
- arsenic
- barium
- cadmium
- cobalt
- copper
- iron
- lead
- manganese
- mercury
- vanadium

OU-5 soil sample results for non-metal COPC parameters exceeding screening criteria are presented on Figure 4.5. Included on this figure are the results for 2- methylnaphthalene, naphthalene, ethylbenzene and xylenes (total) at the 17 to 19 foot bgs depth interval; these

compounds exceed the HSCA screening levels, however have been left off of the non-metal COPC list due to the depth interval at which they were sampled at. The 17-19 feet bgs depth is not considered as "subsurface" as it is deeper than the 0 to 10 foot bgs interval. It should also be noted that the 17 to 19 feet bgs depth interval is below the water table. The potential impact of constituents present in soil on groundwater quality at the Site is evaluated as part of the Site-wide groundwater evaluation and the mass loading evaluation of Site groundwater to Little Mill Creek included in the ERA. The sample results for OU-5 metal COPCs were divided into 3 figures. Sample results for metal COPCs from 0 to 2 feet bgs are presented on Figure 4.6a. Sample results for metal COPCs from 2 to 10 feet bgs are presented on Figure 4.6b and soil results for depths greater than 10 feet bgs are presented on Figure 4.6c.

4.4 OU-6 COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for OU-6.

Surface Soil (0 to 2 feet bgs)

SVOCs

- benzo(a)pyrene

Metals

- antimony
- lead

OU-6 soil sample results for non-metal and metal COPC parameters exceeding screening criteria are presented on Figures 4.7 and 4.8 respectively.

Sediment

SVOCs

- 2-methylnaphthalene
- benzo(a)anthracene
- benzo(a)pyrene
- benzo(b)fluoranthene
- benzo(g,h,i)perylene
- benzo(k)fluoranthene
- dibenz(a,h)anthracene
- indeno(1,2,3-cd)pyrene

Metals

- antimony

- copper
- lead
- zinc

Total petroleum hydrocarbon C10-C28 diesel range organics [total petroleum hydrocarbons (TPH) [C10-C28] diesel range organics (DRO)] were also detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs.

OU-6 sediment sample results for non-metal and metal COPC parameters exceeding screening criteria are presented on Figures 4.9 and 4.10 respectively.

Surface Water

Metals

- manganese

OU-6 surface water sample results for metal COPC parameters exceeding screening criteria are presented on Figure 4.11.

4.5 Site-Wide Groundwater COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for Site-wide groundwater. Both dissolved and total metals were used for COPC screening.

VOCs

- 1,1-dichloroethane
- 1,2,4-trimethylbenzene
- 1,2-dichloroethane
- 1,4-dichlorobenzene
- 2-hexanone, benzene
- carbon tetrachloride
- chloroform
- cis-1,2-dichloroethene
- ethylbenzene
- isopropyl benzene
- tetrachloroethene
- toluene
- trichloroethene
- xylenes (total)

SVOCs

- 2-methylnaphthalene
- biphenyl
- dibenzofuran
- naphthalene

Metals

- aluminum
- arsenic
- barium
- cobalt
- iron
- lead
- manganese
- selenium
- vanadium

PCBs

- aroclor-1260 (PCB-1260)

Although the groundwater data was not evaluated by individual OUs, the Site-wide groundwater results for COPC parameters exceeding screening criteria are presented separate figures by OU for ease of review. The following figures present the groundwater results for COPC parameters exceeding screening criteria:

- 4.12 – OU-3 non-metal COPCs
- 4.13 – OU-3 metal COPCs
- 4.14 – OU-4 non-metal COPCs
- 4.15 – OU-4 metal COPCs
- 4.16 – OU-5 non-metal COPCs
- 4.17 – OU-5 metal COPCs

4.6 Off-Site Groundwater COPCs

The following parameters were detected at maximum concentrations greater than the screening criteria, and therefore were identified as COPCs for Off-Site Groundwater.

VOCs

- 1,2,4-trimethylbenzene
- Benzene
- Chloroform
- Ethylbenzene
- isopropyl benzene
- methyl tert butyl ether
- toluene
- xylenes (total)

SVOCs

- 2-methylnaphthalene
- naphthalene

Off-Site groundwater sample results for non-metal COPC parameters exceeding screening criteria are presented on Figure 4.18.

4.7 Air

The potential for groundwater constituents to affect outdoor and indoor air is addressed in the HHRA in Appendix G

4.8 Biota

The potential for constituents of potential ecological concern (COPECs) to affect biota is addressed in the ERA in Appendix H.

Section 5.0 Conceptual Site Model

5.1 General Contaminant Fate and Transport

Many factors control the partitioning of a chemical in the environment. An understanding of the general fate and transport characteristics of the constituents identified in media is important when predicting future theoretical exposure, linking sources with currently contaminated media, and identifying potentially complete pathways to Site media. Based on the historical analytical data collected for the environmental media of concern at the Site, comparison of the results to DNREC SIRS screening criteria, and current and anticipated future Site conditions, the following potential contaminant transport mechanisms at the Site are:

- Movement with wind
- Movement with surface water
- Movement during future Site re use construction disturbance
- Movement of constituents leached from soil
- Movement with groundwater
- Movement of VOCs (from soil and groundwater) within subsurface gas

The exposure of soil at the surface may result in the transport of dust and VOCs by wind. Cover material, such as buildings and asphalt parking areas, is present throughout most of the Site, but is limited in some areas. The existing cover likely does not totally prevent upward migration of chemicals within vapors. The existing cover has also been found to contain detectable concentrations of chemicals. The presence of chemicals within the existing cover may contribute to chemical migration of VOCs or fugitive dust. VOCs in the air will be subject to dispersion by the wind and photolysis due to exposure to sunlight, thereby limiting their concentrations.

The exposure of soil at the surface may also result in the transport of dissolved or suspended contaminants along surface water drainage pathways. The potential for this to occur is limited because of the topography of the Site. Organic chemicals dissolved in surface water may be subject to adsorption, hydrolysis, or photolysis. VOCs may also volatilize during transport in surface water.

Construction activities may also result in disturbance of contaminants in the various media. Contaminants attached to soil particulates may become suspended in the air column and transported by wind. Additionally, contaminants may be moved from the subsurface to the ground surface during excavation and/or earthwork.

Movement of leached constituents is another potential contaminant transport mechanism. Leached constituents can be produced through infiltration of precipitation into impacted surface soils. Once leached constituents have been produced, the following migration pathways are possible:

1. Leached constituents can be transferred to subsurface soil through percolation away from the surface soils. This transfer may occur through the process of mechanical filtration, precipitation, and/or sorption.
2. Leached constituents can percolate through the underlying soil and impact the underlying aquifer(s).

3. VOCs in leached material can migrate through the vadose zone via diffusion to ambient and/or indoor air.

Movement with groundwater is a potential transport mechanism. Once the chemicals have entered the groundwater, the following migration pathways are possible:

1. Lateral groundwater migration toward Little Mill Creek.
2. Impacted groundwater can migrate vertically to deeper aquifers.
3. VOCs in groundwater can migrate through the vadose zone via diffusion to ambient and/or indoor air.

During groundwater transport, the contaminants released to the groundwater will be subject to dispersion, adsorption, volatilization, and biotic and abiotic degradation.

5.2 Potential Routes of Migration

5.2.1 Mass Loading to Little Mill Creek

Due to the proximity of Little Mill Creek to the Site, mass loading of contaminants to the creek was considered for monitoring wells within 500 feet of the creek. The only monitoring well within 500 feet of the creek was MW-109. This well was installed and sampled by BrightFields during the EBI in 2010. No VOCs, SVOCs, PCBs or pesticides were detected in the sample collected from the well. Barium, calcium, iron, magnesium, manganese, sodium, and zinc were detected in the sample collected from MW-109. The concentrations were compared to the DNREC Uniform Risk Based Standard (URS) for protection of human health in a Non-Critical water resource area (the applicable standard at that time). Iron was the only metal detected that exceeded the URS. Based on the results of the sample collected during the EBI, the well was not included in the original RI work plan. In order to further evaluate what the potential impact of inorganic parameters in Site groundwater may be having on the metals concentration in Little Mill Creek, one new monitoring well (MW-48) was installed in October 2014 and groundwater samples were collected from MW-27, MW-28, MW-35, MW-48, and MW-109. The groundwater sampling event was paired with a corresponding surface water sampling event to evaluate the potential mass loading to Little Mill Creek. The samples were analyzed for total and dissolved metals and the results are presented in the ERA in Appendix H.

Data from 2014 suggest that iron and manganese are the only metals in groundwater that are potentially loading into Little Mill Creek. For both metals, the detected concentrations are well below concentrations that are expected to impact the aquatic life of Little Mill Creek. Details of the ERA are provided in Section 6.2.

5.3 Potential Pathways of Exposure

This section provides potential exposure scenarios for the Site. The discussion focuses on the receptors, possible transport mechanisms and the routes of exposure.

5.3.1 Direct Contact

At present, the Site is secured by fencing and the facility is currently being used for staging and warehousing of equipment. However, it is anticipated that the future use of the property will involve uses similar in nature to the historical property use and may involve some modifications to the Site. Hence, potential direct exposures are likely to be limited to workers involved in the Site operations or modifications to the Site. Potential receptors and routes of exposure include:

- Exposure via direct contact (i.e., incidental ingestion, and dermal contact) by workers performing various tasks at the Site. These exposures are expected to be minimal since it is likely that the operator of the Site will monitor worker activity at the site. In addition, occupational health practices that allow for the safe handling of the material would be implemented.
- Direct contact with a trespasser. Although it is possible for trespassers to make their way on Site, this is highly unlikely since the Site is a fenced facility with controlled entrance gates that are locked and considered a secured location.
- Direct contact by ecological receptors including mammals, birds and burrowing animals. The Site is a former industrial property and the anticipated future land use will be consistent with the historical operations. Direct exposures to wildlife are, thus, expected to be minimal.

5.3.2 Exposure to Air/Wind Dispersed Material

VOCs were only detected at concentrations exceeding screening criteria at one location at the Site. The location is covered by asphalt and is not near any buildings to present an indoor air pathway for exposure. However, COPCs can become airborne from areas of the Site which are not covered via wind-blown dust. These areas are however minimal as the majority of the Site is covered with surfaces such as asphalt or concrete. Potential exposures include:

- Inhalation by workers. These exposures are addressed by occupational health practices (e.g., dust monitoring and control during ground intrusive activities) in place at the site and are not likely to be significant.
- Direct contact by humans and ecological species with windblown materials deposited in the surface water and sediments. Bioaccumulation by ecological species and ingestion of

contaminated aquatic organisms is also possible. These exposures are addressed subsequently under surface water/sediment scenarios.

5.3.3 Groundwater Exposure

Organic and inorganic COPCs are present in the groundwater at the Site. Groundwater at the Site is not used for potable or non-potable purposes and the Site and surrounding area are supplied water through a municipal drinking water supply. There is the potential for vapors from volatile constituents in the groundwater to migrate toward potential receptors. Potential exposures include:

- Inhalation of groundwater vapors. Site workers and individuals living or working in adjacent properties may be exposed to vapors resulting from volatile constituents in groundwater which have migrated off-Site and could potentially enter off-Site buildings. These exposures were being evaluated as part of BrightFields off-Site investigation Report in Appendix B.
- Direct contact by workers. Workers conducting Site related subsurface activities have the potential to come in contact with impacted groundwater. Although this potential is limited as the depth to groundwater is generally deeper than most utilities, occupational health practices that allow for the safe handling of the groundwater will be evaluated as part of the Feasibility Study process.

5.4 Modeling Methods and Results

The extent of groundwater impacts has been delineated. As such, modeling is not necessary to establish the area of groundwater impact.

Section 6.0 Baseline Risk Assessment

6.1 Human Health Risk Assessment

The HHRA was conducted in accordance with the methodology presented in the DNREC-approved *Proposed Risk Assessment Approach for Remedial Investigation (RI) – Revised* dated October 1, 2014 (CRA, 2014b) (HHRA Work Plan). The HHRA is presented in Appendix G. The following section provides a summary of the results of the HHRA with details on the specific assumptions, exposure assessments and calculations provided in Appendix G.

The purpose of the HHRA was to determine whether releases of chemicals to environmental media pose unacceptable risks to human health under specific exposure conditions. The HHRA also provides information to support risk management decisions concerning the need for

further evaluation of remedial action based upon current and reasonably anticipated future land use.

COPCs were identified in the various media through a comparison to the Delaware screening criteria. Surface soil, soil (including surface and subsurface soil), groundwater, sediment, and surface water were quantitatively evaluated within the HHRA as follows (Note: although total and dissolved metals were used for COPC screening, total metals were used for the risk assessment):

Medium	***Receptor***
Surface soil	• Resident (direct contact) • Trespasser (direct contact) • Outdoor Worker (direct contact)
Soil (surface and subsurface soil)	• Resident (inhalation of indoor air) • Indoor Worker (inhalation of indoor air) • Utility Worker (direct contact) • Construction Worker (direct contact)
Groundwater	• Resident (potable) • Resident (inhalation of indoor air) • Indoor Worker (inhalation of indoor air) • Utility Worker (direct contact) • Construction Worker (direct contact)
Sediment	• Trespasser (direct contact)
Surface Water	• Trespasser (direct contact)

Cancer risks and non-carcinogenic hazards were calculated using the Risk Assessment Information System (RAIS) Calculator (RAIS, 2014) and compared to the target cancer risk level (Risk) of 1 x 10^{-5} and target hazard index (HI) of 1.0. For scenarios where RAIS could not be used to calculate the human health risks and hazards, the methodology and assumptions used are outlined for the exposure scenario in Section 5.0 of the HHRA. The tables below provide a summary of the results.

OU-3

Medium	*Receptor*	*Route*	*Risk > 10^{-5}?*	*HI > 1?*
Surface Soil	Resident	Direct Contact	**Yes**	No
	Trespasser	Direct Contact	No	No
	Outdoor Worker	Direct Contact	No	No
Surface and Subsurface Soil	Resident	Inhalation of Indoor Air	Not Calculated(1)	No
	Indoor Worker	Inhalation of Indoor Air	Not Calculated(1)	No
	Utility Worker	Direct Contact	No	No
	Construction Worker	Direct Contact	No	No

(1) – Mercury was the only volatile COPC identified for OU-3 soil, and since mercury is not carcinogenic, a cancer risk as not calculated.

OU-4

Medium	*Receptor*	*Route*	*Risk > 10^{-5}?*	*HI > 1?*
Surface Soil	Resident	Direct Contact	No	No
	Trespasser	Direct Contact	No	No
	Outdoor Worker	Direct Contact	No	No
Surface and Subsurface Soil	Resident	Inhalation of Indoor Air	No	No
	Indoor Worker	Inhalation of Indoor Air	No	No
	Utility Worker	Direct Contact	No	No
	Construction Worker	Direct Contact	No	No

OU-5

Medium	*Receptor*	*Route*	*Risk > 10^{-5}?*	*HI > 1?*
Surface Soil	Resident	Direct Contact	**Yes**	**Yes**
	Trespasser	Direct Contact	No	No
	Outdoor Worker	Direct Contact	**Yes**	**Yes**
Surface and Subsurface Soil	Resident	Inhalation of Indoor Air	**Yes**	**Yes**
	Indoor Worker	Inhalation of Indoor Air	**Yes**	**Yes**
	Utility Worker	Direct Contact	**Yes**	No
	Construction Worker	Direct Contact	No	No

OU-6

Medium	*Receptor*	*Route*	*Cancer Risk*	*Risk > 10^{-5}?*	*Non-Cancer Hazard*	*HI > 1?*	*Appendix D Table Reference*
Surface Soil	Resident	Ingestion Dermal Inhalation	5.7E-06	No	1.8E-01	No	Table D.7
Surface Soil	Trespasser	Ingestion Dermal Inhalation	1.0E-07	No	2.8E-03	No	Table D.8

Medium	*Receptor*	*Route*	*Cancer Risk*	*Risk > 10^{-5}?*	*Non-Cancer Hazard*	*HI > 1?*	*Appendix D Table Reference*
Surface Soil	Outdoor Worker	Ingestion Dermal Inhalation	7.5E-07	No	1.1E-02	No	Table D.9
Surface Soil	Utility Worker	Ingestion Dermal Inhalation	2.2E-07	No	3.2E-03	No	Table D.10
Surface Soil	Construction Worker	Ingestion Dermal Inhalation	8.7E-09	No	3.2E-03	No	Table D.11
Sediment	Trespasser	Dermal	**1.9E-05**	**Yes**	2.1E-05	No	Table D.12
Surface Water	Trespasser	Ingestion Dermal	- (1)	- (1)	1.2E-02	No	Table D.13

Notes:
(1) Manganese was the only COPC identified for surface water, and since manganese is not carcinogenic, a cancer risk was not calculated.

Site-Wide Groundwater

Medium	*Receptor*	*Route*	*Risk > 10^{-5}?*	*HI > 1?*
Groundwater	Resident	Potable Exposure	**Yes**	**Yes**
	Resident	Inhalation of Indoor Air	**Yes**	**Yes**
	Indoor Worker	Inhalation of Indoor Air	**Yes**	**Yes**
	Utility Worker	Direct Contact	**Yes**	No
	Construction Worker	Direct Contact	No	No

Off-Site Groundwater

Medium	*Receptor*	*Route*	*Risk > 10^{-5}?*	*HI > 1?*
Groundwater	Resident	Potable Exposure	**Yes**	**Yes**

6.1.2 Summary and Results

6.1.2.1 Surface and Subsurface Soil

OU-3

OU-3 includes the main manufacturing building and areas of the facility. Based on the results of the HHRA, there were no risks above acceptable levels other than for surface soil for resident receptor.

The major contributors to the risk for the resident direct contact with soil were arsenic (7.7E-06) and benzo(a)pyrene (6.4E-05). The resident risk analysis is done as a baseline analysis

and is not applicable to the Site based on current and future anticipated use of the Site. Therefore, no further action would be required for arsenic and benzo(a)pyrene in OU-3 soil.

Furthermore, it should be noted that the arsenic exposure point concentration (EPC) applied in the RAIS Calculator was 3.26 mg/kg, which is less than the Delaware soil screening level of 11 mg/kg (DNREC, 2014). The Delaware soil screening level is based on the Delaware background soil concentration, which is greater than the risk-based screening level (i.e., USEPA residential RSL of 0.67 mg/kg) (USEPA, 2015). Since the EPC of arsenic in OU-3 soil is less than the Delaware background soil concentration, no further action would be required for arsenic in OU-3 soil.

OU-4

All calculated health risks were below acceptable levels for OU-4. Therefore, no further action would be required for OU-4 soil.

OU-5

Resident Direct Contact with Soil

The major contributors to the risk for the resident direct contact with soil were arsenic (1.1E-04), ethylbenzene (1.9E-05), lead (1.2E-04), and naphthalene (1.2E-05). The major contributors to the calculated hazard index (20) for the resident direct contact with soil were antimony (7.3), arsenic (2.1), cadmium (5.9), and iron (1.4).

As stated earlier, the resident risk analysis is done as a baseline analysis and is not applicable to the Site based on current and future anticipated use of the Site. Therefore, no further action would be required for OU-5 relative to resident direct contact with soil.

Resident Inhalation of Indoor Air (from Soil)

The major contributors to the calculated cancer risk (1.3E-02) for the resident inhalation of indoor air (from soil) were 1,4-dichlorobenzene (1.3E-03), ethylbenzene (1.1E-02), and naphthalene (9.6E-04). The major contributors to the calculated hazard index (116) for the resident inhalation of indoor air (from soil) were ethylbenzene (12), mercury (2.1), naphthalene (25), and xylenes (76).

As stated earlier, the residential risk analysis is done as a baseline analysis and is not applicable to the Site based on current and future anticipated use of the Site. Therefore, no further action would be required to address indoor air at OU-5 relative to resident inhalation of indoor air. Furthermore, as discussed in the HHRA there are significant uncertainties associated with the

soil to indoor air pathway and some regulatory jurisdictions do not recommend evaluating this pathway.

Indoor Worker Inhalation of Indoor Air (from Soil)

The major contributors to the calculated cancer risk (4.6E-03) for the indoor worker inhalation of indoor air (from soil) were 1,4-dichlorobenzene (4.3E-04), ethylbenzene (3.8E-03), and naphthalene (3.3E-04). The major contributors to the calculated hazard index (41) for the indoor worker inhalation of indoor air (from soil) were ethylbenzene (4.3), naphthalene (9.1), and xylenes (27).

OU-5 is a paved parking lot and there are currently no buildings or structures present. Therefore, the indoor worker scenario is not currently applicable. The future anticipated use of the Site would be similar to the historical and current use of the Site. Therefore, no further action to address indoor worker inhalation is warranted at OU-5. Furthermore, as discussed in the HHRA there are significant uncertainties associated with the soil to indoor air pathway and some regulatory jurisdictions do not recommend evaluating this pathway.

Outdoor Worker Direct Contact with Soil

The major contributors to the calculated cancer risk (5.2E-05) for the outdoor worker direct contact with soil were arsenic (2.1E-05) and lead (2.3E-05). The major contributors to the calculated hazard index (1.3) for the outdoor worker direct contact with soil were antimony (0.44), arsenic (0.13), and cadmium (0.38). There were no individual COPCs with calculated hazard indices greater than the acceptable hazard index level of 1.0.

Exposure via direct contact (i.e., incidental ingestion, and dermal contact) by workers performing various tasks at the Site is expected to be minimal since it is likely that the operator of the Site will monitor worker activity at the Site. In addition, occupational health practices that allow for the safe handling of the material would be implemented.

Utility Worker Direct Contact with Soil

The major contributors to the calculated cancer risk (1.2E-05) for the utility worker direct contact with soil were arsenic (4.6E-06) and lead (6.7E-06).

Exposure via direct contact (i.e., incidental ingestion, and dermal contact) by workers performing various tasks at the Site is expected to be minimal since it is likely that the operator of the Site will monitor worker activity at the Site. In addition, occupational health practices that allow for the safe handling of the material would be implemented.

OU-6

Health risks above acceptable levels were calculated for the trespasser direct contact exposure to OU-6 sediment. The major contributor to the calculated cancer risk (1.9E-05) for the trespasser direct contact exposure to sediment was benzo(a)pyrene (1.5E-05), present in the on-Site sediment samples collected from Outfall 001 prior to the discharge weir.

The trespasser direct contact exposure to sediment for only benzo(a)pyrene does not warrant further action with regard to the HHRA, The sediment and surface water down stream of the Outfall and the mass loading to Little Mill Creek are also being evaluated in the ERA.

6.1.2.2 Site-Wide Groundwater

Resident Inhalation of Indoor Air (from groundwater)

The major contributors to the calculated risk for the resident inhalation exposure to indoor air (from groundwater) were benzene (6.1E-05) and ethylbenzene (3.1E-05). The major contributors to the calculated hazard index (6) for the resident inhalation exposure to indoor air (from groundwater) were 1,2,4-trimethylbenzene (3.8) and xylenes (1.2).

The resident risk analysis is done as a baseline analysis and is not applicable to the Site based on current and future anticipated use of the Site. Therefore, no further action would be required to address residential risks.

Indoor Worker Inhalation of Indoor Air (from groundwater)

The major contributors to the calculated risk (1.8E-05) for the indoor worker inhalation exposure to indoor air (from groundwater) were benzene (1.2E-05) and ethylbenzene (5.8E-06). The major contributors to the calculated hazard index (1.1) for the indoor worker inhalation exposure to indoor air (from groundwater) were 1,2,4-trimethylbenzene (0.7) and xylenes (0.24). As indicated above, there were no individual COPCs with calculated hazard indices greater than the acceptable hazard index level of 1.0. Additionally, these contaminants are specifically associated with OU-4/AOI-16 located on the east side of the Site. Groundwater associated with AOI-16 is being evaluated with the off-Site groundwater and vapor impacts by BrightFields through the Focused Feasibility Study Former Wilmington Assembly Plant – Dodson Ave. Interim vapor Phase Remediation dated May 2014.

Resident Potable Groundwater Exposure

The major contributors to the calculated risk (1.5E-03) for the resident potable groundwater exposure were aroclor-1260 (3.1E-05), arsenic (1.0E-04), benzene (6.3E-04), chloroform (1.1E-05), 1,2-dichloroethane (2.1E-05), ethylbenzene (2.7E-04), and naphthalene (4.2E-04).

The major contributors to the calculated hazard index (129) for the resident potable groundwater exposure were benzene (8.6), 1,1-biphenyl (11), cobalt (9.5), iron (3), manganese (32), naphthalene (11), 1,2,4-trimethylbenzene (38), and xylene (11).

The resident risk analysis is done as a baseline analysis and is not applicable to the Site based on current and future anticipated use of the Site. Moreover, residents in the impacted area are serviced by the public water supply system. Therefore, no further action would be required to address residential risks.

Utility Worker Direct Contact with Groundwater

The major contributor to the calculated risk (7.5E-05) for the utility worker direct contact exposure to groundwater was aroclor-1260 (6.5E-05).

Exposure via direct contact (i.e., incidental ingestion, and dermal contact) by workers performing various tasks at the Site is expected to be minimal since it is likely that the operator of the Site will monitor worker activity at the Site. In addition, occupational health practices that allow for the safe handling of the material during utility work would be implemented. No further action to address direct contact with groundwater is required.

6.1.2.3 OU-2 Groundwater

As discussed in Section 4.0 a Groundwater Remedial Investigation and Feasibility Study (RI/FS) report was prepared and submitted to DNREC to evaluate the groundwater conditions in OU-2 in January 2009 (CRA, 2009b). The OU-2 Groundwater RI/FS included an HHRA that concluded that the concentrations of constituents in groundwater within OU-2 do not pose a significant risk either under current use conditions or if future operations at OU-2 where to entail a much higher degree of worker presence and were not to be regulated by OHSA.

Subsequently, a Limited Action remedy consisting of routine groundwater sampling was conducted in the vicinity of the OU-2 Area from August 2008 through May 2010. The groundwater analytical data generated throughout the duration of the Limited Action remedy demonstrated that the extent of groundwater contamination had not migrated beyond OU-2, and that with the exception of chlorobenzene at MW-7, the relevant concentrations of groundwater contaminants had not increased significantly over the monitoring period. As such, impacts to groundwater were consistent with the conditions evaluated in the OU-2 Groundwater HHRA.

However, as noted in the RI Work Plan, there were sample results during the Limited Action remedy that exceeded the previously detected maximum concentrations contemplated by the OU-2 HHRA. These include the following parameters:

- Chlorobenzene
- 1,4-dichlorobenzene
- Ethylbenzene
- Vinyl chloride
- Xylenes
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Antimony
- Arsenic
- Iron
- Manganese

Therefore, as part of the risk evaluation for the Site, the parameters that exceeded the previously detected maximum concentrations contemplated by the OU-2 Area HHRA were further evaluated to determine if the conclusions of the OU-2 Groundwater HHRA remain valid and determine if further evaluation of these parameters in the Site-wide HHRA is warranted.

To determine if the conclusions of the OU-2 Groundwater HHRA remain valid, several approaches, or lines of evidence, were used to look at the data to ensure that a comprehensive analysis has been completed. The first approach was to compare the concentrations used in the OU-2 Groundwater HHRA risk calculations to the maximum detected concentrations and 95 percent upper confidence limit (UCL) concentrations from the entire 2008 to 2010 groundwater monitoring program as summarized below. In addition to treating the entire dataset as a whole, as a second level of evaluation the data was reviewed in more detail for the wells which are located in groundwater area exhibiting the highest levels of impact (i.e., MW-3, MW-11 and MW-12) since this area represents the highest risk to potential receptors.

In the OU-2 Groundwater HHRA, the maximum detected concentrations were used in the risk calculations, generally due to the sample size, with the exception of acetone, benzene, chromium (total), ethylbenzene, 2-methylnaphthalene, naphthalene, toluene, vanadium, and xylenes (total). For these parameters the 95 percent UCL was calculated and used in the risk calculations. However, the OU-2 Groundwater HHRA also looked at the associated risk if the

maximum detected concentration had been used for all parameters (i.e., the OU-2 Groundwater HHRA look at both the risk associated with using the 95 percent UCL for select parameter and the risk associated with using the maximum detected for all parameters).

			2008 to 2010 Groundwater Data		
Parameter	***Units***	***Concentration Used in OU-2 HHRA***	***Max Detected Concentration***	***Date/Location of Max Detected***	***95 Percent UCL***
Volatile Organic Compounds					
1,4-Dichlorobenzene	µg/L	14	120	MW-15 – 03/10	13.6
Chlorobenzene	µg/L	76	1,300	MW-7 – 03/10	220
Ethylbenzene	µg/L	18,000	19,000	MW-3 – 03/10	2,400
Vinyl chloride	µg/L	--	2.5	MW-12 – 02/08	0.70
Xylenes (total)	µg/L	8,460	32,000	MW-3 – 03/10	4,100
Semi-volatile Organic Compounds					
Dibenz(a,h)anthracene	µg/L	--	3.7	MW-13 – 08/08	-- (1)
Indeno(1,2,3-cd)pyrene	µg/L	--	3.7	MW-13 – 08/08	-- (1)
Naphthalene	µg/L	608	3,200	MW-13 – 02/09	490
Metals					
Antimony	µg/L	--	6.7	MW-9 – 11/08	6.2
Arsenic	µg/L	47.4	47.8	MW-11 – 08/08	12
Iron	µg/L	--	285,000	MW-3 – 02/09	64,000
Manganese	µg/L	21,300	25,800	MW-3 – 02/09	4,700

Notes:

- Not detected in the OU-2 dataset

(1) Only one detection, therefore, UCL cannot be determined

Comparison of the concentrations used in the OU-2 HHRA to the maximum detected concentrations from the 2008 to 2010 groundwater monitoring data show that the maximum detected concentrations exceed the concentration used in the OU-2 HHRA for each of the parameters listed above. However, given the number of data points from the 2008 to 2010 groundwater monitoring event, there is sufficient data to calculate the 95 percent UCL concentrations for these parameters which would be a more appropriate concentration to use in the risk assessment. For 1,4-dichorobenzene, ethylbenezene, xylenes (total), naphthalene, arsenic, and manganese, the 95 percent UCL concentration is below the concentration used in the OU-2 HHRA, therefore, on the basis of the 95 percent UCL concentration the 2008 to 2010 dataset does not change the conclusions of the OU-2 HHRA for these parameters.

Further analysis of these six parameters relative to the mostly highly impacted area of groundwater in OU-2 (i.e., MW-3, MW-11 and MW-12) indicates that the maximum detected concentration for 1,4-dichlorobenze and naphthalene were not observed in this area (i.e., they were observed at MW-15 and MW-13, respectively). This finding is consistent with a lack of a specific contaminant plume for these constituents, and therefore, the use of a 95 percent UCL

across OU-2 is considered appropriate for this evaluation. It should also be noted that the maximum detected concentration of 1,4-dichlrobenze of 120 µg/L, which was detected at MW-15 in February 2009 appears to be anomalous. The following sample collected from MW-15 in March 2010 contained a concentration of 1,4 –dichlorobenzene of 0.27 J µg/L and the next highest concentration of 1,4-dichlorobenzene collected during the 2008 to 2010 dataset is 9 µg/L (MW-7 in February 2009).

The maximum detected concentration for ethylbenzene, xylenes (total), arsenic, and manganese did occur at either MW-3 or MW-11. As noted in the Groundwater Monitoring Report OU-2 Bulk Product Tank Area (March, 2011) the maximum detected concentrations of ethylbenzene and xylenes (total) during the Interim Remedial Action show no increasing trend and are less than 5 percent higher than the maximum detected concentration contemplated in the OU-2 Groundwater HHRA. This pattern is consent with the normal variability of data over time and therefore not considered likely to impact the results of the HHRA.

The maximum detected concentration for arsenic and manganese was also observed in this area (MW-11 and MW-3, respectively). Consistent with the site-wide data and the data from the OU-2 groundwater monitoring, a specific contaminant plume related to metals in groundwater does not exist for the Site. The data as presented in the Groundwater Monitoring Report OU-2 Bulk Product Tank Area (March, 2011) is either isolated to a select number of monitoring wells (as in the case of arsenic) or fairly widespread throughout OU-2 (as in the case of manganese). Therefore, as noted above, the use of the 95 percent UCL concentration is the most appropriate approach for evaluating the potential risk when sufficient data exists.

Vinyl chloride, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and antimony were not detected in the dataset used in the OU-2 HHRA. During the 2008 to 2010 groundwater monitoring events, these parameters were detected infrequently and therefore would have been screened out of the site wide HHRA due to low detection frequency. Dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene were each detected in one sample result (from MW-13 in August 2009) of 48 samples analyzed for these parameters during the monitoring program. Vinyl chloride and antimony were each detected in two samples of the 83 samples analyzed for these parameters during the monitoring event. Moreover, the maximum detected concentrations, which are the basis for the further analysis conducted herein, were detected during the February or August 2008 sampling events. More recent data from 2009 and 2010 collected as part of the Limited Action remedy showed these constituents to be non-detect or below screening criteria. Therefore, no further evaluation of these parameters within the risk assessments is warranted.

Iron was not included in the OU-2 HHRA as it does not pose a significant risk for the exposure pathways evaluated in the OU -2 HHRA (i.e., volatilization to indoor air and direct contact with groundwater). Therefore, the concentrations of iron in the 2008 to 2010 dataset does not change the conclusions of the OU-2 HHRA for iron.

The concentrations of chlorobenzene observed in the 2008 to 2010 groundwater dataset are sufficiently higher than the concentrations used in the OU-2 HHRA that further evaluation of this parameters would be warranted (i.e., 95 percent UCL from 2008 to 2010 dataset is 220 µg/L compared to the maximum detected concentration used in the OU-2 HHRA of 76 µg/L). However, upon further review of the risk calculations from the OU-2 HHRA it is clear that chlorobenzene is not a significant contributor to the risk associated with OU-2 groundwater. The U.S. EPA cancer classification for chlorobenzene is Group D, not classifiable as to human carcinogenicity and therefore it does not contribute to the carcinogenic risk calculation in the OU-2 HHRA. The largest contributors to the HI's calculated in the OU-2 HHRA were toluene, vanadium, naphthalene, ethylbenzene, and xylenes(total). Moreover, since the HI's calculated in the OU 2 HHRA are less than one and the HI related to chlorobenzene is more than an order of magnitude lower than HI's for the largest contributors, the change in the concentration of chlorobenzene from the OU 2 HHRA dataset to the 2008 to 2010 dataset does not change the conclusions of the OU-2 HHRA.

Lastly, in accordance with the RI Work Plan samples were collected to confirm detections of lead at MW-15 and toluene at MW-11 in 2010. The 2010 results indicated concentrations exceeding the applicable criteria at the time. The concentrations of these parameters at these wells had been below the applicable criteria prior to the 2010 sampling event. The results of the sampling conducted under the RI are presented in Table 6.1. Using a direct comparison, the results for lead, dissolved lead, and toluene were below the screening criteria used for the RI. Therefore, no further action is warranted to address the May 2010 detections of lead at MW-15 and toluene at MW-11 in May 2010.

6.1.2.4 Off-Site -Groundwater

The major contributors to the calculated risk (3.2E-04) for the off-Site resident potable groundwater exposure were ethylbenzene (9.7E-05) and naphthalene (2.2E-04) and associated with OU-4. The major contributors to the calculated hazard index (20) for the off-Site resident potable groundwater exposure were naphthalene (5.9), 1,2,4-trimethylbenzene (12), and xylene (1.5).

Off-Site impacts are currently being addressed by BrightFields through the Focused Feasibility Study Former Wilmington Assembly Plant – Dodson Ave. Interim Vapor Phase Remediation dated May 2014.

6.2 Ecological Risk Assessment

An ERA consisting of Steps 1, 2, and 3a of the USEPA process for conducting ecological risk assessment is presented in Appendix H. Media evaluated were soil collected from the main manufacturing area and an area of mature forest east of the Site (wooded area) and surface water and sediment of Little Mill Creek, which is located in the wooded area. Sediment collected from a stormwater ditch in the northeastern portion of the Site was also evaluated.

The screening process (Steps 1 and 2) identified COPECs by comparing maximum concentrations to ecological screening values (ESVs). In Step 3a, the COPECs identified in the screening process were refined by considering complete exposure pathways, exposure concentrations based on 95 percent UCL concentrations, background concentrations, and alternative ecological benchmarks. Food chain models were used to assess the potential for risk to avian and mammalian wildlife.

6.2.1 Main Manufacturing Area

Based on maximum detected concentrations detected in soil of the main manufacturing area, the screening process identified four VOCs (cyclohexane, cis 1,2 dichloroethene, isopropylbenzene, and methylcyclohexane), three BTEX constituents (benzene, ethylbenzene, and total xylenes), two SVOCs (bis(2 ethylhexyl)phthalate and butylbenzylphthalate), high molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs), total PCBs, three pesticides (4,4' DDT, endrin aldehyde, and endrin ketone), and 17 metals (aluminum, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, titanium, vanadium, and zinc) as COPECs.

The Step 3a refinement process eliminated all COPECs for soil in the main manufacturing area. All samples in the dataset were collected from areas covered by pavement or other man made surfaces. Due to the cover, ecological receptors are not exposed to the COPECs in soil.

6.2.2 Wooded Area

Screening of surface soil collected from the wooded area identified two VOCs (isopropylbenzene and methylcyclohexane), one SVOC (butylbenzylphthalate), and 12 metals (aluminum, antimony, cadmium, chromium, copper, iron, lead, manganese mercury, selenium, vanadium, and zinc) as COPECs. Isopropylbenzene and methylcylcohexane were retained as COPECs due the lack of ESVs. Aluminum was retained because pH of the soil, which is the basis of the ESV, is uncertain. The maximum concentration of cadmium was below its ESV. However,

cadmium was retained as a COPEC because it is a bioaccumulative chemical of concern (BCOC) and could potentially pose risk to upper trophic level wildlife.

The 15 constituents retained as COPECs for the wooded area were refined by evaluating the potential for risk to soil invertebrates, terrestrial plants, avian wildlife, and mammalian wildlife. Selection of refinement benchmarks (RBs) for the four receptor groups considered background concentrations in New Castle County. Due to the absence of RBs and background concentrations, potential risk to soil invertebrates and terrestrial plants could not be evaluated for isopropylbenzene, methylcyclohexane, and butylbenzylphthalate. However, based on several lines of evidence, including the absence of indicators of stressed vegetation in the wooded area, these three organic compounds are not expected to pose a significant potential for risk to soil invertebrates or terrestrial plants. None of the 12 metals carried forward for refinement were identified as posing risk to soil invertebrates and terrestrial plants.

The refinement for avian and mammalian wildlife identified isopropylbenzene, methylcylcohexane, butylbenzylphthalate, antimony, cadmium, lead, mercury, and selenium as potentially posing risk. These eight constituents were further evaluated using food chain models. Food chain models did not identify a potential for risk to avian and mammalian wildlife for any of the eight constituents.

6.2.3 Surface Water of Little Mill Creek

The screening of data collected in 2012 identified aluminum, barium, and zinc as COPECs for the surface water of Little Mill Creek. The refinement process eliminated all three of these metals as COPECs. For the supplemental data collected in 2014, concentrations of barium in surface water collected from Outfall 001 and the stormwater outfall and manganese in the surface water from the stormwater outfall exceed the DNREC surface water screening levels. These two areas provide limited habitat for aquatic life. Consequently, the potential for risk to aquatic life at Outfall 001 and stormwater outfall is limited due to an incomplete exposure pathway.

Concentrations of barium in all samples collected from Little Mill Creek and lead in one sample exceed their DNREC screening levels. Concentrations of barium are very similar for all samples, which suggests that concentrations above the screening level are due to natural sources. The screening level for barium is a Tier II value, which includes safety factors. All concentrations in Little Mill Creek are below the ecological screening level (ESL) identified by USEPA Region 5. Consequently, it can reasonably be concluded that concentrations of barium in Little Mill Creek do not pose risk to aquatic life above the threshold for concern.

The single detected concentration of lead in Little Mill Creek is below numerous ecological benchmarks for aquatic life. Furthermore, the absence of detected concentrations of lead in either outfall or perimeter groundwater wells suggests lead may be attributable to sources other the Site.

6.2.4 Sediment

The screening process for sediment collected in 2011 and 2012 identified bis(2 ethylhexyl)phthalate, butylbenzylphthalate, carbazole, and dibenzofuran, low molecular weight (LMW) PAHs, HMW PAHs, TPH, and 12 metals (antimony, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, vanadium, and zinc) as COPECs for sediment. The refinement process identified a potential for risk to benthic invertebrates exposed to organic compounds (toluene and SVOCs), PAHs, chromium, copper, lead, and zinc in the sediment. Food chain models identified a potential for risk to avian and mammalian wildlife exposed to HMW PAHs (avian piscivores), TPH (mammalian insectivores), mercury (avian piscivores), vanadium (avian piscivores), and zinc (avian piscivores).

As a result of the initial screening, supplemental data for sediment were collected in 2014 and analyzed for PAHs and metals. Concentrations of total PAHs in bulk sediment exceed both the lower tier no effect and upper tier lowest effect sediment quality benchmarks (SQBs) in the stormwater ditch and one station in Little Mill Creek (SED 100 02). Consideration of ESBs, which take into account bioavailability and relative toxicity of the individual PAHs, also identified a potential for risk to benthic invertebrates for the stormwater ditch and all stations in Little Mill Creek, with the highest potential at SED 100 02.

PAHs are ubiquitous in the environment due to the large number and diversity of sources that potentially release PAHs into the environment (Boehm, 2006; Neff et al., 2005). Several lines of evidence suggest that the elevated concentrations of PAHs in the stormwater ditch and Little Mill Creek are due to sources other than the Site. The Norfolk Southern rail yard, which forms the northern boundary of the Site, is potentially a significant source of PAHs. Sources of PAHs in the rail yard include diesel fuel, lubricating oils, creosote in ties, and incomplete combustion products from burning of diesel fuel. Another potential source of PAHs is the urban watershed of Little Mill Creek upstream of the Site. Sources of PAHs in the urban watershed include oil and incomplete combustion products from car and truck traffic.

If Site-related sources upstream of the stormwater ditch are the primary source of PAHs in the sediment of Little Mill Creek, then the relative composition of PAHs is be expected to be different upstream of the Site and adjacent and downstream of the Site. This is not the case. Analysis of the relative concentrations of the six predominate parent PAHs in sediment identified a consistent pattern for samples collected from the stormwater ditch, upstream of

surface inputs from the Site (i.e., outfalls), and adjacent to the Site. This consistency strongly suggests that PAHs are most likely attributable to sources other than Site-related activities. Groundwater provides another line of evidence for determining if the Site is a source of PAHs in Little Mill Creek. If PAHs are migrating from the Site, then the PAHs detected in Little Mill Creek at elevated concentrations would also be expected to be present in groundwater. The absence of detected concentrations of any of the PAHs in all perimeter wells provides an additional line of evidence for non-Site sources of PAHs.

Concentrations of PAHs and metals in the sediment of Little Mill Creek were lower for the 2014 samples than those collected in 2011 and 2012, which are less representative of EPCs for current conditions in Little Mill Creek. The food chain model for belted kingfisher was reevaluated for HMW PAHs and zinc. Based on EPCs for the 2014 data, the potential for risk to belted kingfisher exposed to HMW PAHs and zinc is below the threshold for concern.

Semi volatile organic compounds, TPH, mercury, and vanadium were retained as COPECs for sediment based on data collected in 2011 and 2012. For this dataset, all detected concentrations of TPH and mercury were in samples collected from the stormwater ditch, which provides limited habitat for aquatic receptors. The absence of detected concentrations of mercury in Little Mill Creek was confirmed with the supplemental data collected in 2014. The only sample with concentrations of SVOCs with a potential for risk to benthic invertebrates was collected in the stormwater ditch. Vanadium was detected in both the stormwater ditch and Little Mill Creek, with the samples with the highest concentrations collected from the stormwater ditch. Based on these data, it can reasonably be concluded that SVOCs, TPH, mercury, and vanadium do not pose a potential for risk to the aquatic life of Little Mill Creek.

6.2.5 Mass Loading

Comparison of concentrations of dissolved metals in groundwater in the perimeter wells and surface water of Little Mill Creek identified iron and manganese as potential indicators of loading to Little Mill Creek. However, concentrations of both iron and manganese in Little Mill Creek are substantially below their DNREC screening levels, suggesting no impact to aquatic life.

Section 7.0 Summary and Conclusions

7.1 Summary

A RI was conducted at the Site between September 2011 and November 2014. This included the evaluation of off-Site impacts in the area east of the Site near Dodson Avenue by BrightFields as reported in Appendix B. A total of 18 AOIs were investigated as part of the RI

activities in accordance with the RI Work Plan, the September 7, 2011 Addendum to the RI Work Plan, the July 27, 2012 Supplemental RI Work Plan, and the Supplemental Investigation Work Plan for OU-6 dated September 29, 2014. All work was done with DNREC concurrence.

The scope of the on-Site RI activities conducted by CRA included the evaluation of surface soil (i.e., 0-2 feet bgs), soil (i.e., 2-10 feet bgs), groundwater, soil gas, sediment and surface water. The on-site portion of the RI included the following activities:

- Installation of 124 soil borings and the collection of 231 soil samples (this number includes all of the soils from AOI-12 that were field screened for metals in 2012 but not retained for potential confirmatory analysis)
- Installation of 17 new monitoring wells and the collection of 76 groundwater samples (this number includes the 40 groundwater samples collected from the vertical aquifer sample locations)
- The collection of 18 sediment and 12 surface water samples
- Collection of 5 soil gas samples

In addition to the above, an evaluation of groundwater, soil gas and indoor air was conducted in the eastern portion of the facility (in the vicinity of AOI-16) and off-Site in the neighborhood of Dodson Avenue. This work is summarized in a report prepared by BrightFields and provided in Appendix B.

7.1.1 Nature and Extent of Contamination

The results of the RI sampling activities were compared to the DNREC SIRS Screening Levels to determine a list of COPCs for each AOI. The initial screening was completed by comparing the maximum detected concentration in each AOI to the corresponding Screening Level. Any parameters in each AOI where the maximum detected concentration was below the SIRS Screening Level were eliminated from further evaluation.

Following the initial screening, benzo(a)pyrene (OU-3, OU-5, and OU-6), 2-methylnaphthalene (OU-5), and naphthalene (OU-5) were the only organic compounds that were identified as a COPCs in surface soil (i.e., 0 to 2 feet bgs).

The only organic compound identified as a COPC in soil (i.e., 2 to 10 feet bgs) was 2-methylnaphthalene at OU-4. in addition, the following inorganic compounds were determined to be COPCs for surface soil and soil:

- Surface Soil OU-3 – antimony, arsenic, cobalt, lead, manganese, mercury, nickel
- Soil OU-3 – antimony, arsenic, cobalt, manganese

- Surface Soil OU-5 – antimony, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, selenium, vanadium, zinc
- Surface Soil OU-5 – antimony, arsenic, barium, cadmium, cobalt, copper, iron, lead, manganese, mercury, vanadium
- Surface Soil OU-6 – antimony, lead

An initial screening also identified a number VOCs, SVOCs, and metals present in Site groundwater above the Screening levels, including the following:

- VOCs detected in groundwater included 1,1-dichloroethane, 1,2,4-trimethylbenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, 2-hexanone, benzene, carbon tetrachloride, chloroform (trichloromethane), cis-1,2-dichloroethene, ethylbenzene, isopropylbenzene, tetrachloroethene, toluene, trichloroethene, xylenes (total).
- SVOCs detected in groundwater included 2-methylnaphthalene, biphenyl (1,1-biphenyl), dibenz(a,h)anthracene, dibenzofuran, indeno(1,2,3-cd)pyrene, naphthalene.
- Metals detected in groundwater included aluminum, arsenic, barium, cobalt, iron, lead, manganese, selenium and vanadium.

SVOCs and metals were the only parameters detected in the sediments samples collected from the outfall areas during the RI. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)oyrelen, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3 cd)pyrene , and 2-methylnaphthalene, antimony, copper, lead, and zinc were each detected in the sediment samples.

Manganese was the only parameter detected in surface water at concentrations exceeding the Screening Level. Manganese was detected in each of the five surface water samples at concentrations ranging from 41.3 µg/L to 76.7 µg/L which are above the Screening Level of 32 µg/L.

The results of the off-Site groundwater and soil gas investigation confirmed the presence of residual contamination from an historical petroleum release at the former UST area adjacent to the Anchor Motor Freight Building (OU-4/AOI-16). A dissolved VOC impacted groundwater plume has migrated from the source area near the eastern property boundary to the north-north east. The concentrations of VOCs decline as the plume moves east with the highest observed concentrations being at MW-36 and MW-36D on Site and off-Site well MW-42. The BrightFields report notes that "Groundwater concentrations decline significantly as they move away from the historical source area and do not appear to be reaching an end point receptor."

The BrightFields report also concludes that the VOCs in soil gas that is encroaching on townhome parcels directly adjacent to the property along Dodson Avenue, currently does not appear to be affecting end point receptors.

The results of the indoor air sampling at the townhomes east of the Site indicated that the concentrations of VOCs in the samples were not Site related, but rather, likely from new construction materials. In addition, it was determined that there was not a complete vapor intrusion pathway at the Reybold Self-Storage buildings since they are unoccupied and the rental office is off-Site.

7.1.2 Human Health Risk Assessment

An HHRA was conducted to determine whether releases of chemicals to environmental media pose unacceptable risks to human health under specific exposure conditions and to provide information to support risk management decisions concerning the need for remedial action based upon current and reasonably anticipated future land use.

As a baseline, the following resident exposure scenarios were evaluated in the HHRA.

Surface Soil – direct contact
Soil (Surface and subsurface soil) – inhalation of indoor air
Groundwater – potable and inhalation of indoor air

Risks associated with the resident risk analysis are not applicable to the Site based on current and future anticipated use of the Site, and therefore, no further action would be required to address residential risks.

The following additional trespasser worker scenarios were also evaluated in the HHRA.

Surface soil	Trespasser (direct contact) Outdoor Worker (direct contact)
Soil (surface and subsurface soil)	Indoor Worker (inhalation of indoor air) Utility Worker (direct contact) Construction Worker (direct contact)
Groundwater	Indoor Worker (inhalation of indoor air) Utility Worker (direct contact) Construction Worker (direct contact)
Sediment	Trespasser (direct contact)

Surface Water	Trespasser (direct contact)

Calculated risks to human health for the above scenarios required further action for the following scenarios:

- Outdoor Worker and Utility Worker for direct contact with soil associated with arsenic and lead in OU-5 (i.e., OU-5/AOI 12 – Test Track Waste Storage Area)
- Off-Site Groundwater, which is being addressed under a separate feasibility study process

7.1.3 Ecological Risk assessment

An ERA, consisting of Steps 1, 2, and 3a of the USEPA process for conducting ecological risk assessment (USEPA 1997), was conducted for Site. Media evaluated were soil and surface water and sediment of Little Mill Creek, which is located in an area of mature forest east of the Site.

The screening process (Steps 1 and 2) identified constituents of COPECs by comparing maximum concentrations to ESVs. In Step 3a, the COPECs identified in the screening process were refined by considering complete exposure pathways, exposure concentrations based on 95 percent UCL concentrations, background concentrations, and alternative ecological benchmarks. Food chain models were used to assess the potential for risk avian and mammalian wildlife.

The ERA process for soil collected from the main manufacturing area eliminated all COPECs for soil in the main manufacturing area. All soil samples in the main manufacturing area dataset were collected for areas covered by pavement or other man made surfaces. Due to the cover, ecological receptors are not exposed to the COPECs in soil.

The ERA process for soil collected for the wooded area in OU-6 did not identify a potential for risk to any ecological receptors exposed to any of the chemical constituents detected in the wooded area above the threshold for concern.

The ERA process for surface water collected from Little Mill Creek in 2011 concluded that the potential for risk due to aluminum, barium, and zinc is below the threshold for concern. The single detected concentration of lead in the 2014 dataset is most likely from sources other than the Site.

The ERA process for sediment collected from Little Mill Creek and stormwater ditch in 2011 and 2012 retained SVOCs, PAHs, and five metals as COPECs. The only detected concentrations of

petroleum hydrocarbons and mercury were in samples collected from the stormwater ditch, which provides limited habitat for ecological receptors.

Due to uncertainty regarding the potential source of constituents in the sediment, a supplemental dataset was collected from Little Mill Creek in 2014. The supplement sampling provided additional data for PAHs and metals. The subsequent risk characterization for sediment for the supplemental dataset did not identify a potential for risk for benthic invertebrates exposed to metals or avian piscivores exposed to metals and PAHs above the threshold for concern. The risk characterization did, however, identify a potential for risk to benthic invertebrates exposed to PAHs in the stormwater ditch and Little Mill Creek.

Several lines of evidence suggest that the elevated concentrations of PAHs in the sediment of Little Mill Creek are not from sources migrating from the Site. One line of evidence is the presence of numerous sources of PAHs in the watershed of Little Mill Creek, including the urban land use upstream of the Site (oil, incomplete combustion products from car and truck traffic) and the Norfolk Southern rail yard (diesel fuel, lubricating oils, creosote, and incomplete combustion products). A second line of evidence is the consistency in the composition of the predominant PAHs in samples collected in the stormwater ditch, upstream, and adjacent to the Site. A third line of evidence is the absence of detected concentrations of PAHs in perimeter wells on the Site.

The evaluation of potential loading to Little Mill Creek from groundwater identified iron and manganese as potentially migrating from the Site to Little Mill Creek. The low concentrations of both iron and manganese at all sampling locations in Little Mill Creek document that, although loading may be occurring, aquatic life is not impacted by migration of metals from the Site. Therefore no further investigation or remedial actions are required for these chemicals.

7.2 Conclusions

A comprehensive review and evaluation of potential release to the environment has been completed for the Site through the RI process. The investigation and sampling has confirmed that impacts to soil, groundwater, sediment and surface water are present throughout the Site above the DNREC SIRS Screening Levels.

The evaluation of the Site-wide groundwater identified that although the calculated risks for indoor worker inhalation of indoor air were above the threshold, there were no individual COPCs with calculated hazard indices greater than the acceptable hazard index level of 1.0. Additionally, these contaminants are specifically associated with OU-4/AOI-16 located on the

east side of the Site. The groundwater associated with OU-4/AOI-16 is being addressed with the off-Site groundwater and vapor impacts by BrightFields through the Focused Feasibility Study Former Wilmington Assembly Plant – Dodson Ave. Interim vapor Phase Remediation dated May 2014.

Utility worker exposure via direct contact (i.e., incidental ingestion, and dermal contact) with on-Site groundwater by workers performing various tasks at the Site is expected to be minimal since it is likely that the operator of the Site will monitor worker activity at the Site. In addition, occupational health practices that allow for the safe handling of the material during utility work would be implemented. No further action to address direct contact with groundwater is required, however, due to the groundwater impacts present, a remedy will need to be further evaluated in the Feasibility Study

Metals are present in Site surface soils and soils. The majority of soil impacts are located in the surface soil (i.e., 0 to 2 feet bgs) and are consistent with the historical operation of the facility for automotive manufacturing. Through the risk assessment process, only arsenic and lead are present in Site soils OU-5/AOI-12 at levels that pose a threat to human health and will require remedial action.

Section 8.0 References

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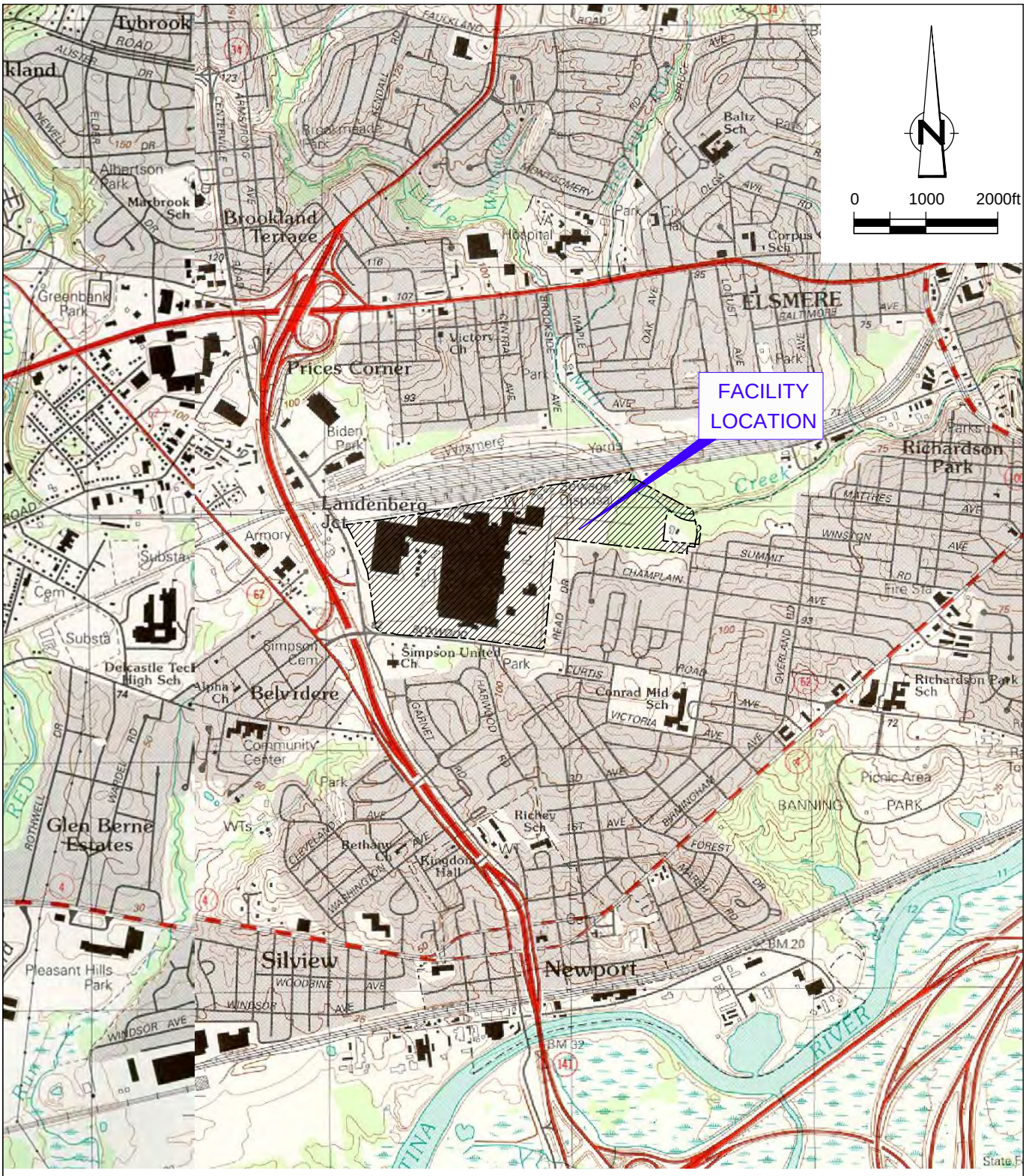
DNREC, 2014, Screening Level Table – Department of Natural Resources and Environmental Control, Division of Waste and Hazardous Substances, Site Investigation & Restoration Section, Delaware DNREC, October 2014.

RAIS, 2014. The Risk Assessment Information System Models

USEPA 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessment, USEPA/540/R-97/006, June 1997.

USEPA, 2015. Regional Screening Level (RSL) Summary Table (TR=1E-6, HQ=0.1), January 2015

Figures



LEGEND

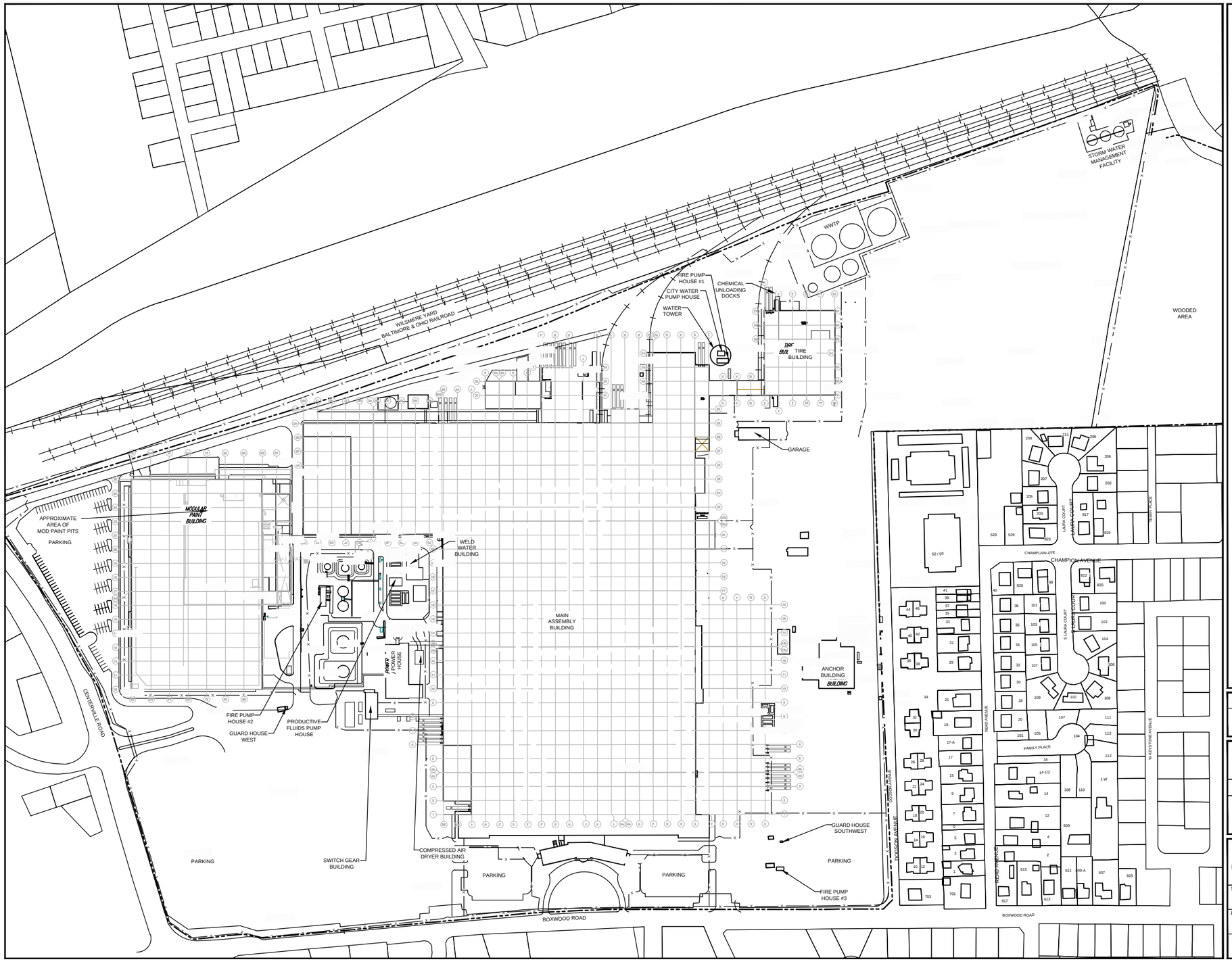
APPROXIMATE FACILITY BOUNDARY

figure 1.1

FACILITY LOCATION
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
Wilmington, Delaware

REFERENCE:
USGS WILMINGTON SOUTH QUADRANGLE, DEL TOPOGRAPHIC, 7.5 MINUTES SERIES 1997 SCALE: 1:24,000

17338-00(020)GN-BU004 MAR 12/2015



0 50 150ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

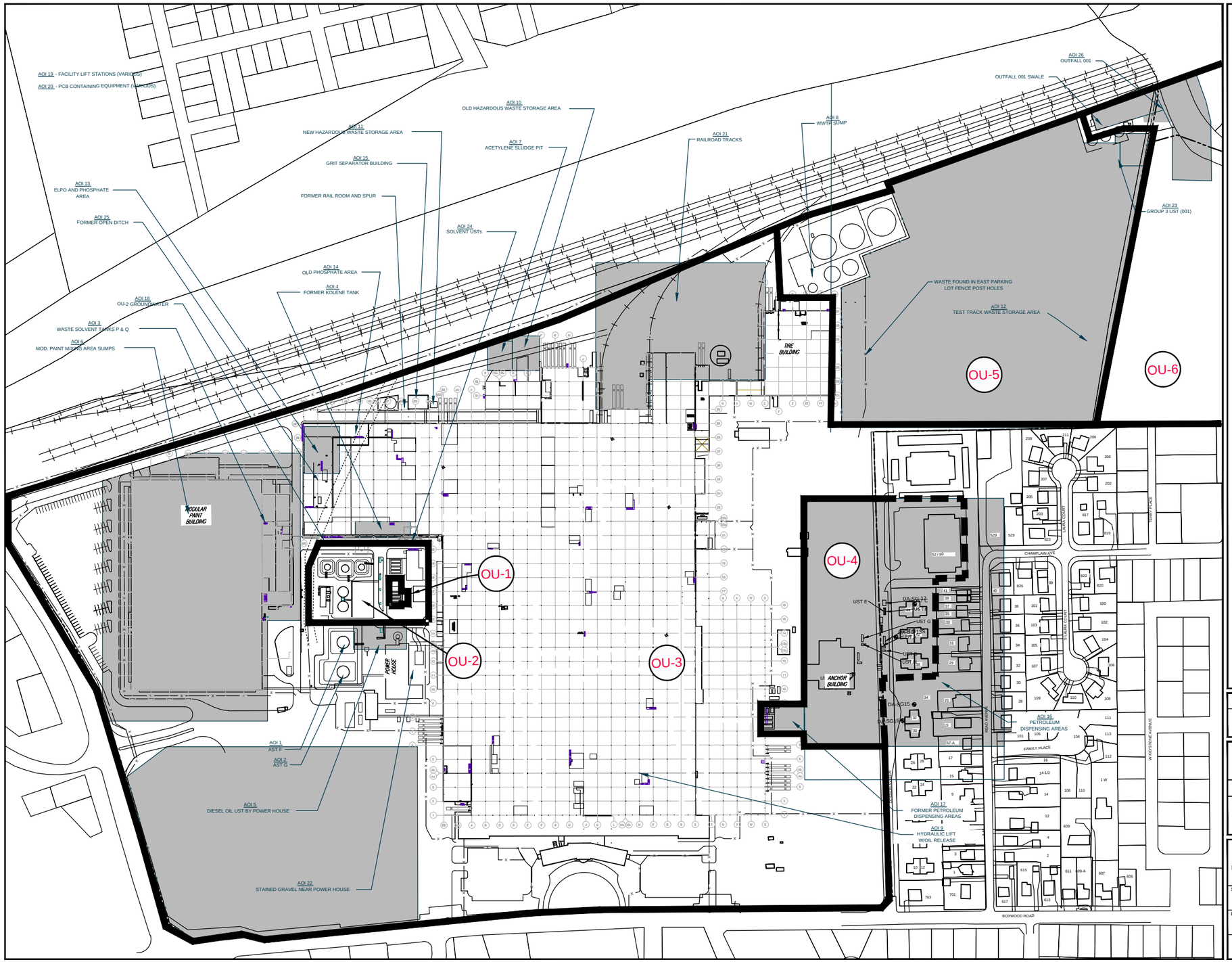
FACILITY LAYOUT

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: HORZ_SC	Project N°: 17338-T04	Report N°: 020	Drawing N°: 1.2

17338-00(020)GN-BU006 FEB 20/2015



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

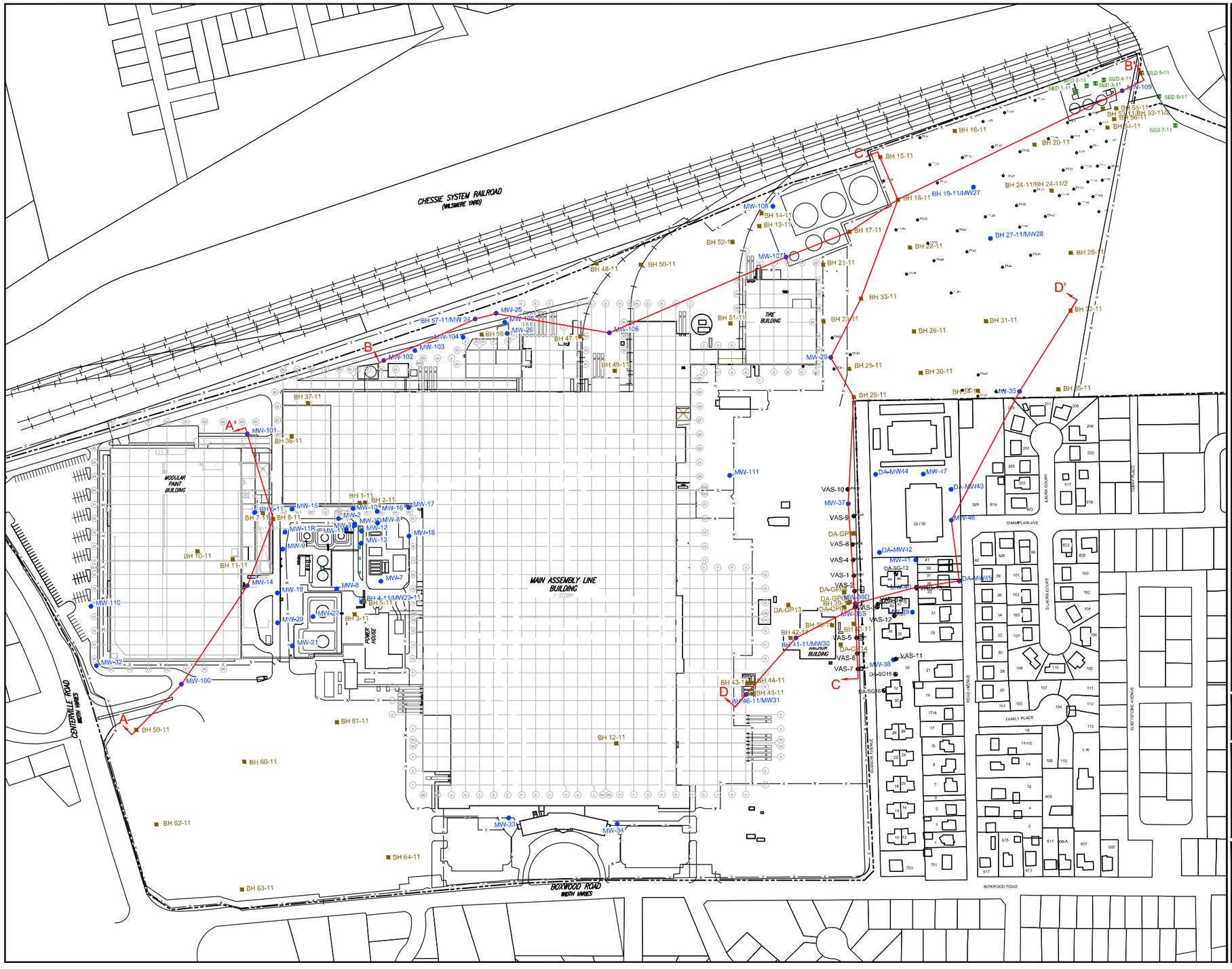
LOCATIONS OF AREAS OF INTEREST (AOIs) AND OPERABLE UNTILS (OUs)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=150'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 1.3

17338-00(020)GN-BU007 MAR 12/2015



APPROXIMATE FACILITY BOUNDARY
FENCELINE
RAILWAY
APPROXIMATE LOCATION OF HISTORICAL EXCAVATION
EDGE OF CREEK
500' BUFFER
GROUNDWATER ELEVATION CONTOUR
MW-1 ABAN ABANDONED MONITORING WELL
BH 57-11/MW 24-11 BOREHOLE/MONITORING WELL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

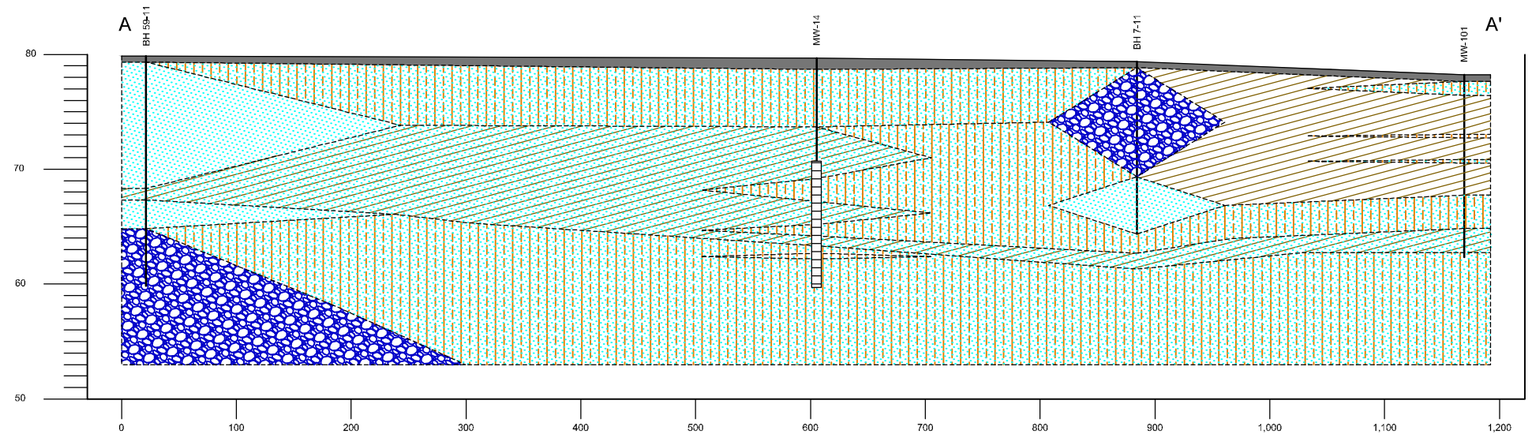
REMEDIAL INVESTIGATION REPORT

CROSS SECTION PLAN VIEW

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: G. CARLI	Reviewed By: REVIEWED_BY	Date: MARCH 2015	
Scale: HORZ_SC	Project No.: 17338-T04	Report No.: 020	Drawing No.: 2.1

17338-00(020)GN-BU008 MAR 12/2015



SCALE: HORZ. 1" = 60'
VERT. 1" = 6'
VERTICAL EXAGGERATION = 10X

LEGEND

MW-12 — WELL DESIGNATION
GROUND SURFACE

— OBSERVATION WELL INSTALLATION

— SCREENED INTERVAL
— BOTTOM OF BORING

CONCRETE

GRAVEL

CLAY

SAND

SILT

FILL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON
ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

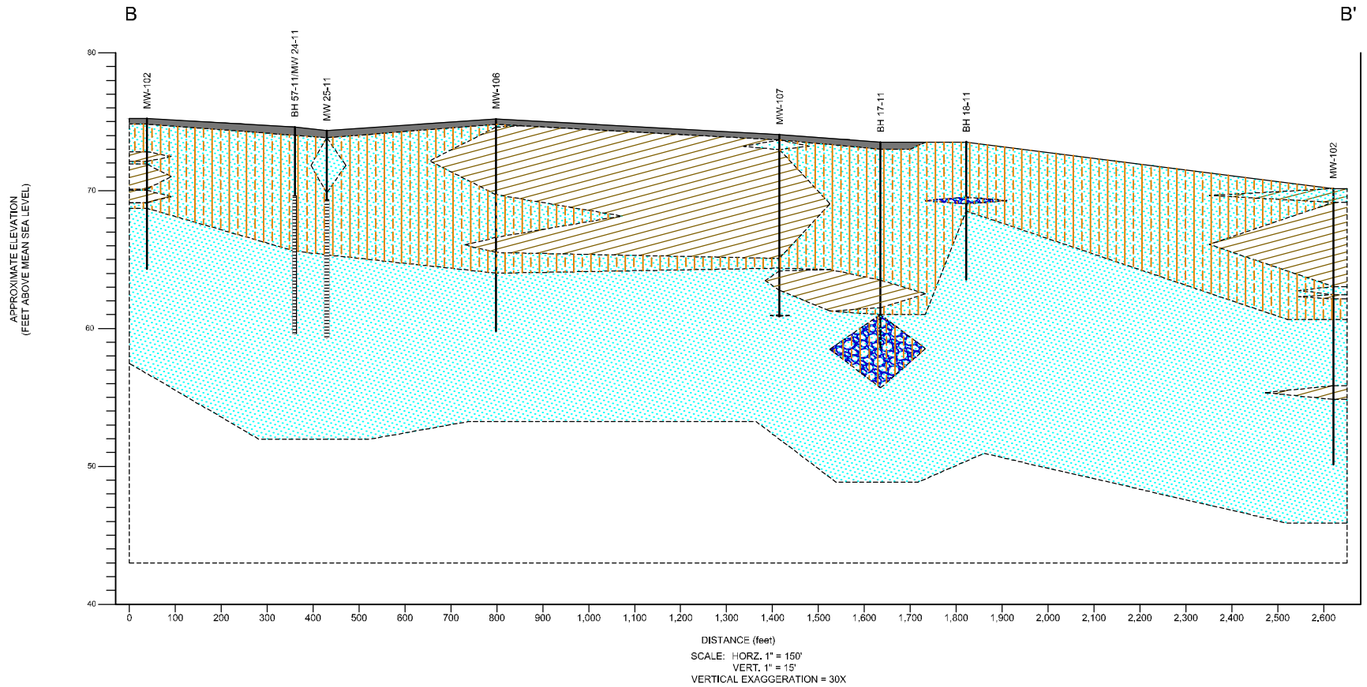
CROSS SECTION A-A'

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	C. BARTON	MARCH 2015	
Scale: HORZ: 1:100 VERT: 1:10	Project N°: 17338-T04	Report N°: 020	Drawing N°: 2.2

17338-00(020)GN-BU009 MAR 12/2015



SCALE: HORZ. 1" = 150'
VERT. 1" = 15'
VERTICAL EXAGGERATION = 30X

LEGEND

MW-12 — WELL DESIGNATION
GROUND SURFACE

— OBSERVATION WELL INSTALLATION

— SCREENED INTERVAL
— BOTTOM OF BORING

CONCRETE

GRAVEL

CLAY

SAND

SILT

FILL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON
ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

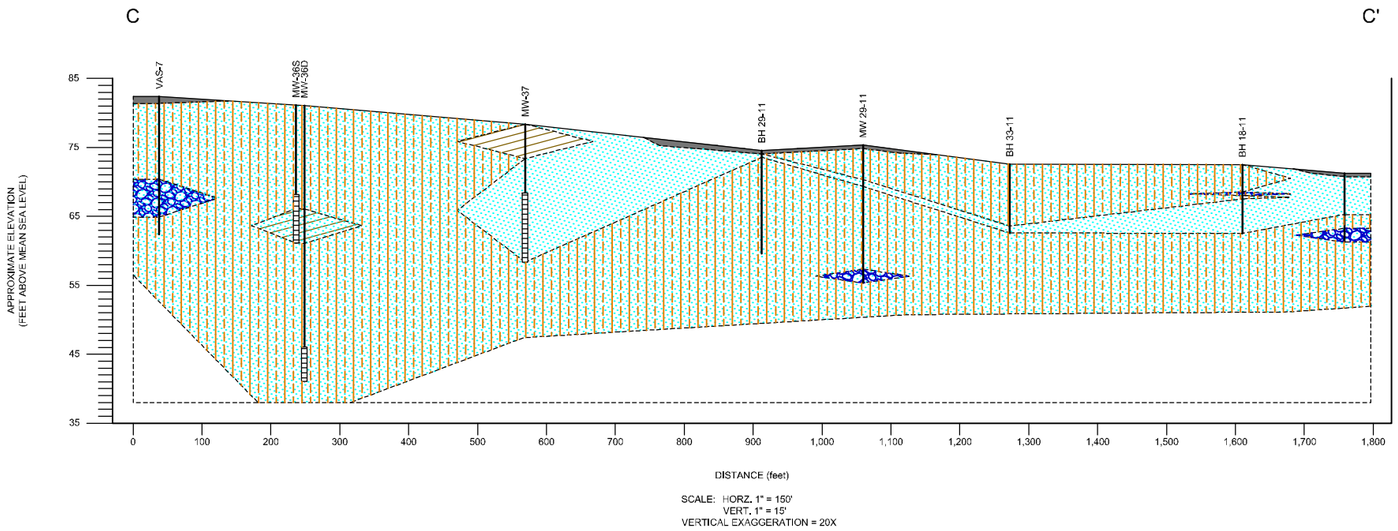
CROSS SECTION B-B'

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: HORZ_SC VERT_SC	Project No.: 17338-T04	Report No.: 020	Drawing No.: 2.3

17338-00(020)GN-BU010 MAR 12/2015



SCALE: HORZ. 1" = 150'
VERT. 1" = 15'
VERTICAL EXAGGERATION = 20X

LEGEND

MW-12 — WELL DESIGNATION
GROUND SURFACE

— OBSERVATION WELL INSTALLATION

— SCREENED INTERVAL
— BOTTOM OF BORING

CONCRETE

GRAVEL

CLAY

SAND

SILT

FILL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON
ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

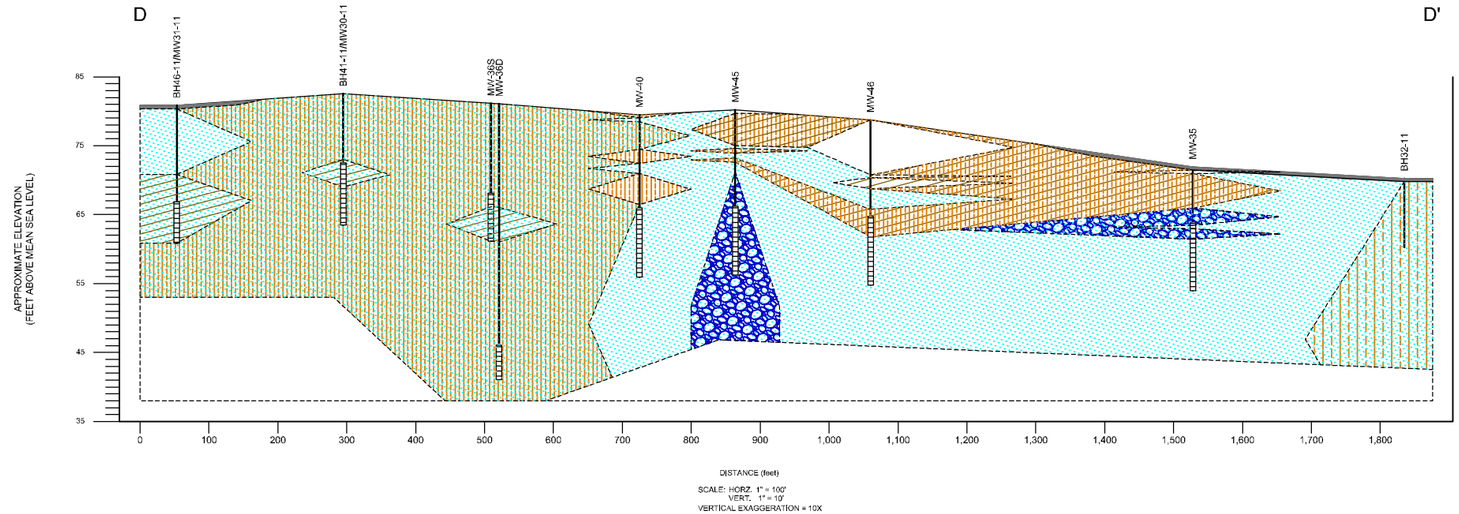
CROSS SECTION C-C'

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: HORZ_SC VERT_SC	Project N°: 17338-T04	Report N°: 020	Drawing N°: 2.4

17338-00(020)GN-BU011 MAR 12/2015



LEGEND

MW-12 — WELL DESIGNATION
GROUND SURFACE

— OBSERVATION WELL INSTALLATION

— SCREENED INTERVAL
— BOTTOM OF BORING

CONCRETE

GRAVEL

CLAY

SAND

SILT

FILL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON
ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

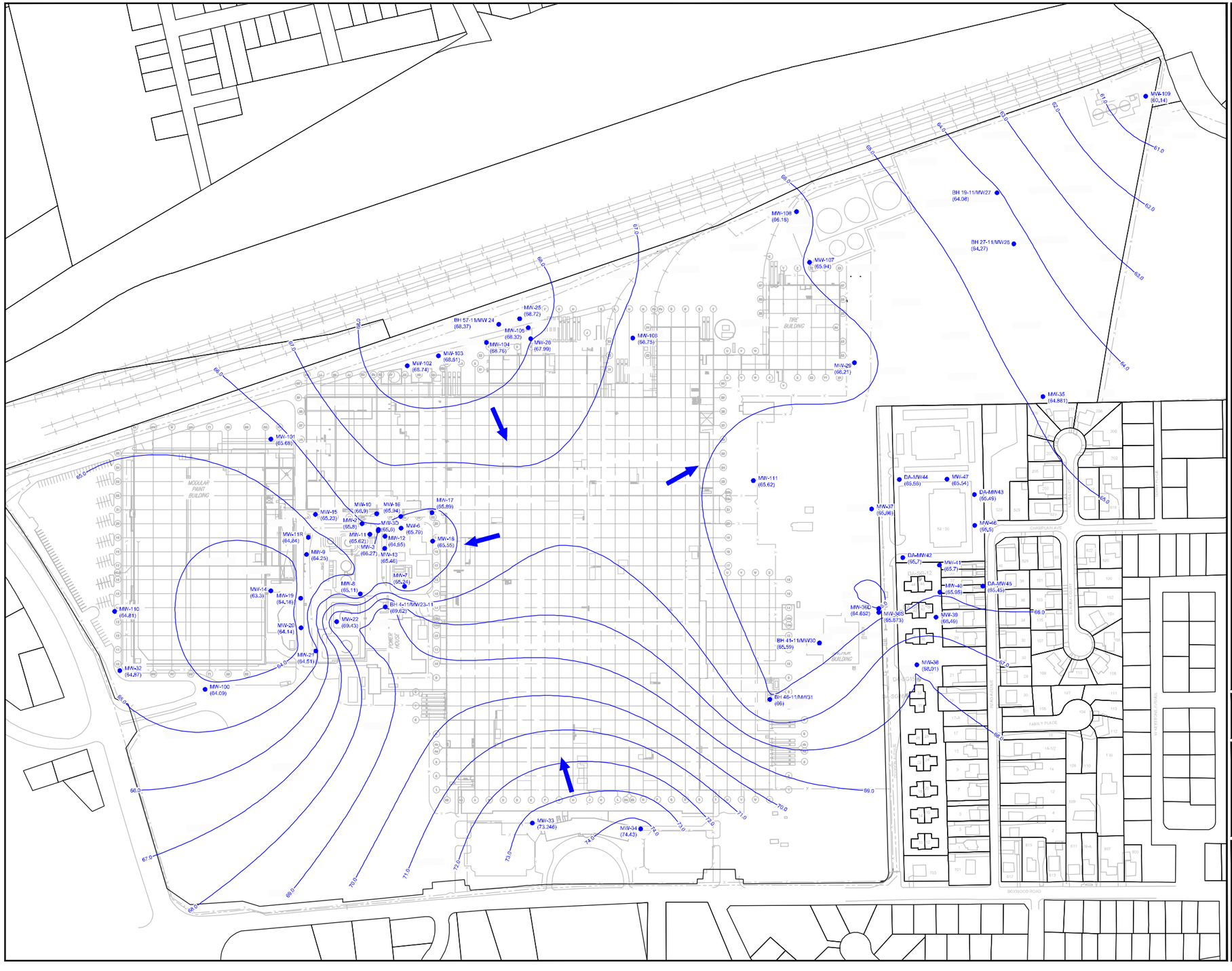
CROSS SECTION D-D'

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: HORZ_SC VERT_SC	Project No.: 17338-T04	Report No.: 020	Drawing No.: 2.5

17338-00(020)GN-BU012 MAR 12/2015



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

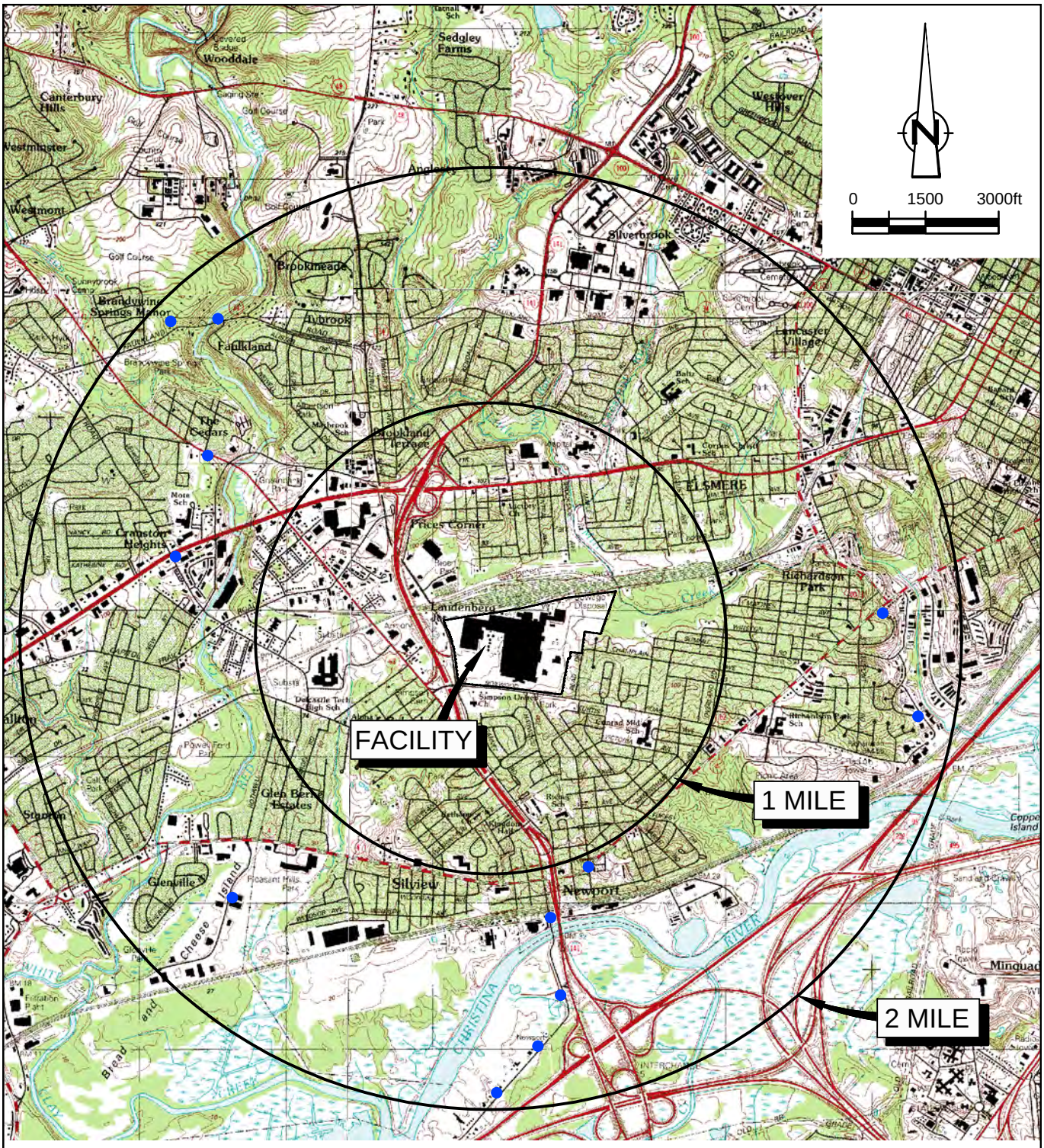
GROUNDWATER ELEVATION CONTOURS JUNE 2013

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: HORZ_SC	Project N°: 17338-T04	Report N°: 020	Drawing N°: 2.6

17338-00(020)GN-BU013 FEB 20/2015



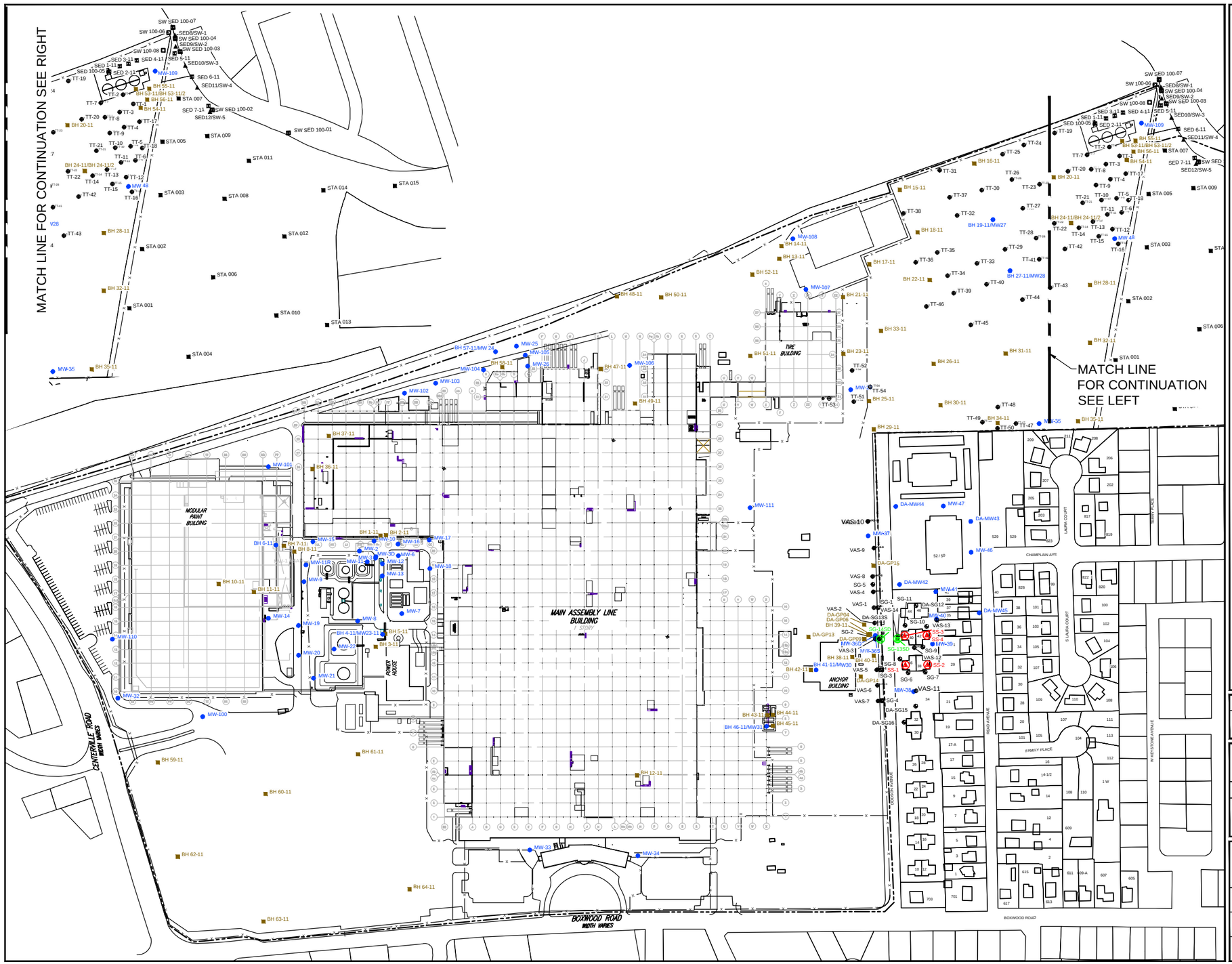
LEGEND

- APPROXIMATE FACILITY BOUNDARY
- 1 MILE RADIUS FROM FACILITY
- 2 MILE RADIUS FROM FACILITY
- WATER WELL

figure 2.7

NEARBY WATER WELL LOCATIONS (DECEMBER 2009)
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
Wilmington, Delaware

SOURCE:
USGS 1:24,000 DIGITAL RASTER QUADS 1997 WILMINGTON NORTH, WILMINGTON SOUTH,NEWARK EAST, KENNETT SQUARE



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

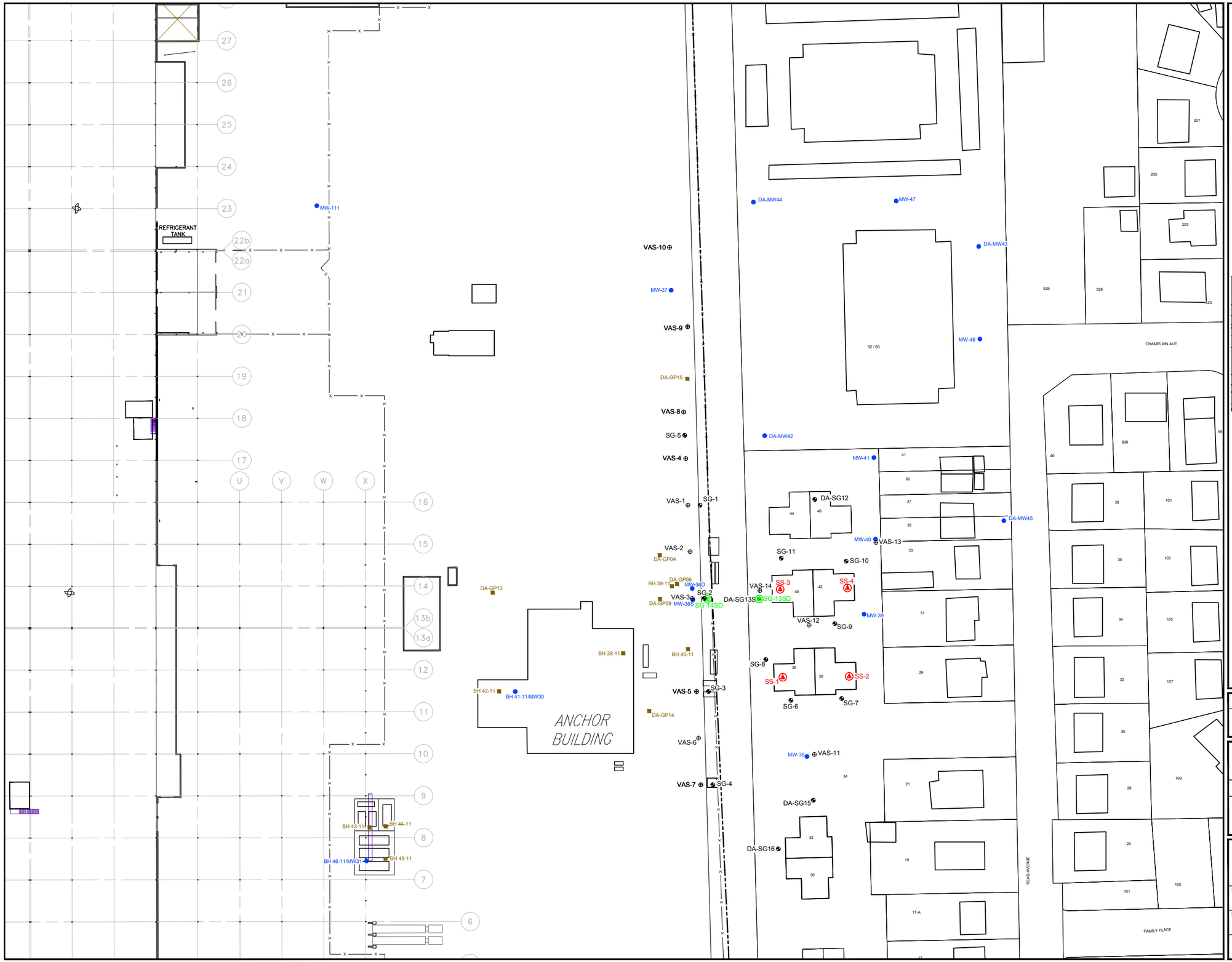
REMEDIAL INVESTIGATION REPORT

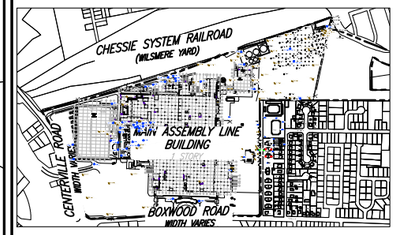
REMEDIAL INVESTIGATION SAMPLE LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: G. CARLI	Reviewed By: REVIEWED_BY	Date: MARCH 2015	
Scale: HORZ_SC	Project N°: 17338-T04	Report N°: 020	Drawing N°: 3.1

17338-00(020)GN-BU014 MAR 12/2015





KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

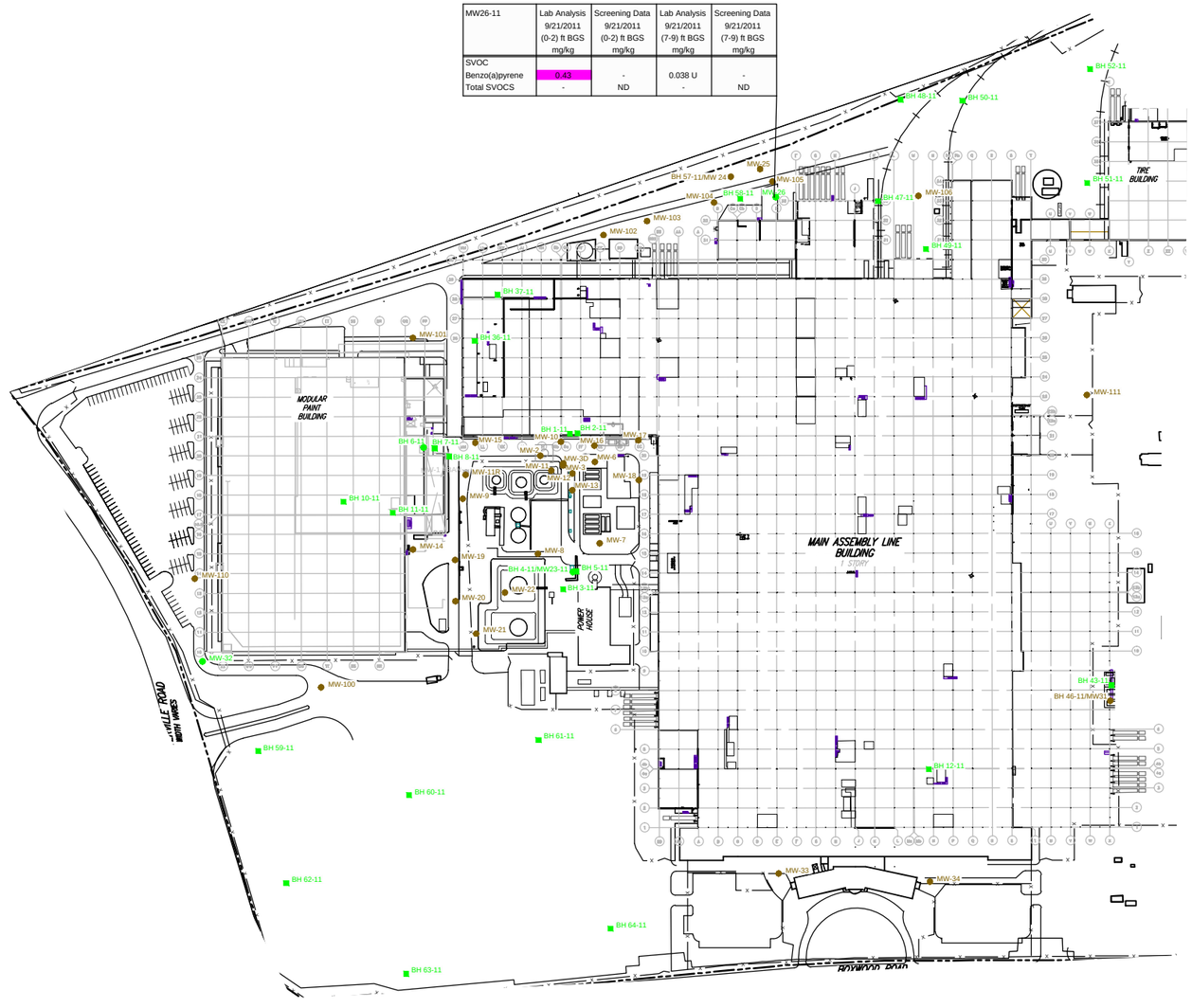
EXPANDED AREA OF AOI-16 SAMPLE LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: G. CARLI	Reviewed By: REVIEWED_BY	Date: MARCH 2015	
Scale: HORZ_SC	Project Nº: 17338-T04	Report Nº: 020	Drawing Nº: 3.2

17338-00(020)GN-BU016 MAY 12/2015

MW26-11	Lab Analysis 9/21/2011 (0-2) ft BGS mg/kg	Screening Data 9/21/2011 (0-2) ft BGS mg/kg	Lab Analysis 9/21/2011 (7-9) ft BGS mg/kg	Screening Data 9/21/2011 (7-9) ft BGS mg/kg
SVOC				
Benzo(a)pyrene	0.43	-	0.038 U	-
Total SVOCS	-	ND	-	ND



0 50 150ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
Benzo(a)pyrene	0.09

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

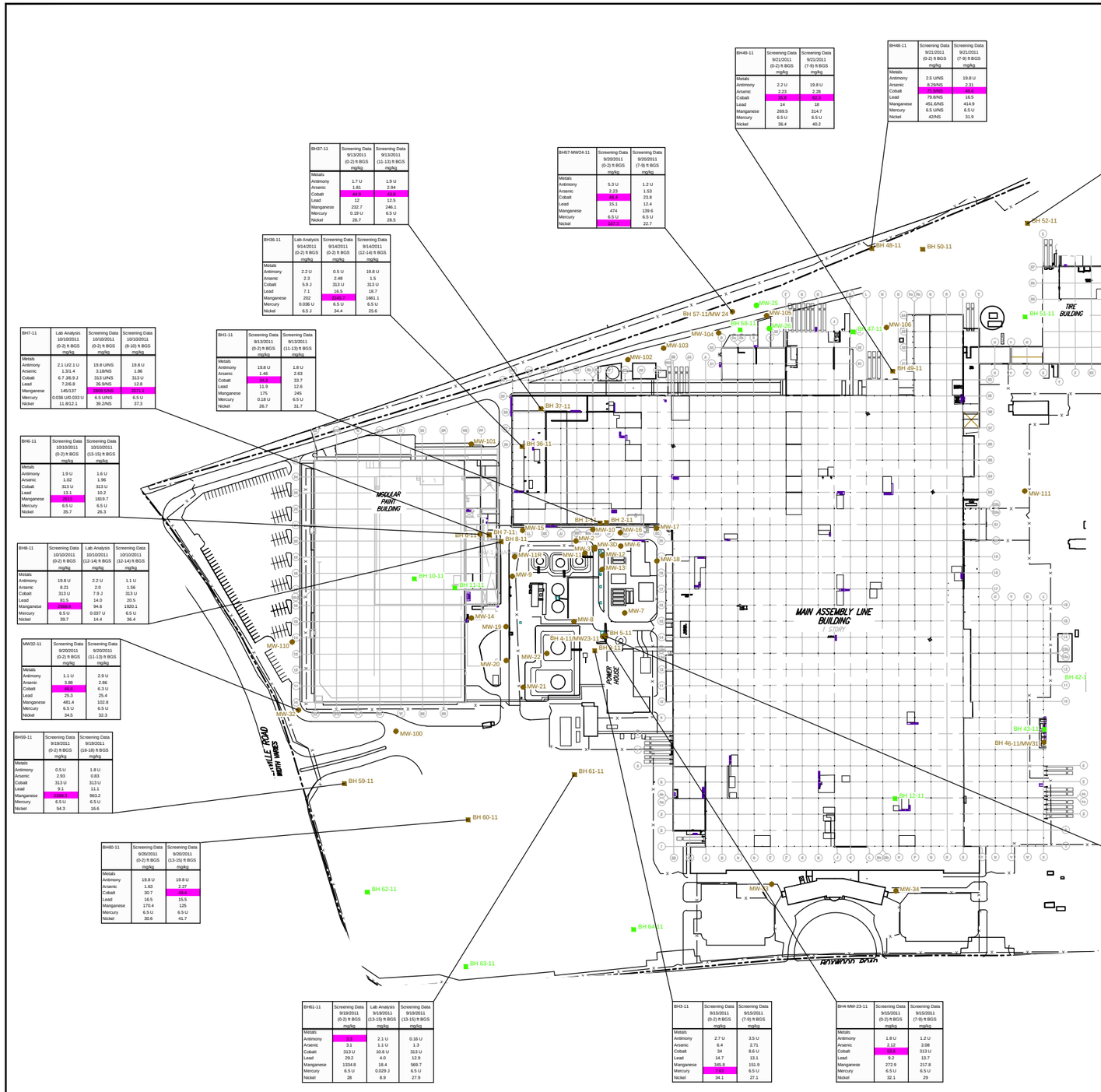
OU-3 SOIL NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=150'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.1

17338-00(020)GN-BU017 MAR 10/2015



BH49-11	Screening Data 9/21/2011 (0-2) ft BGS mg/kg	Screening Data 9/21/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	2.2 U	19.8 U
Arsenic	2.23	2.28
Cobalt	34.6	62.3
Lead	14	16
Manganese	269.5	314.7
Mercury	6.5 U	6.5 U
Nickel	36.4	40.2

BH48-11	Screening Data 9/21/2011 (0-2) ft BGS mg/kg	Screening Data 9/21/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	2.5 UNS	19.8 U
Arsenic	8.29NS	2.31
Cobalt	71.9NS	41.6
Lead	79.8NS	16.5
Manganese	451.6NS	414.9
Mercury	6.5 UNS	6.5 U
Nickel	42NS	31.9

BH52-11	Lab Analysis 9/22/2011 (0-2) ft BGS mg/kg	Screening Data 9/22/2011 (0-2) ft BGS mg/kg	Screening Data 9/22/2011 (13-15) ft BGS mg/kg
Metals			
Antimony	12.8	9.1	19.8 U
Arsenic	4.3	17.04	2.07
Cobalt	4.4 J	34.9	19.9
Lead	467	152.8	10.8
Manganese	140	240.9	159.2
Mercury	0.071	6.5 U	6.5 U
Nickel	9.9	29.8	26.2

BH37-11	Screening Data 9/13/2011 (0-2) ft BGS mg/kg	Screening Data 9/13/2011 (11-13) ft BGS mg/kg
Metals		
Antimony	1.7 U	1.9 U
Arsenic	1.81	2.94
Cobalt	44.9	43.8
Lead	12	12.5
Manganese	232.7	246.1
Mercury	0.19 U	6.5 U
Nickel	26.7	28.5

BH57-MW24-11	Screening Data 9/20/2011 (0-2) ft BGS mg/kg	Screening Data 9/20/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	5.3 U	1.2 U
Arsenic	2.23	1.53
Cobalt	48.4	23.8
Lead	15.1	12.4
Manganese	474	139.6
Mercury	6.5 U	6.5 U
Nickel	58.3	22.7

BH36-11	Lab Analysis 9/14/2011 (0-2) ft BGS mg/kg	Screening Data 9/14/2011 (0-2) ft BGS mg/kg	Screening Data 9/14/2011 (12-14) ft BGS mg/kg
Metals			
Antimony	2.2 U	0.5 U	19.8 U
Arsenic	2.3	2.48	1.5
Cobalt	5.9 J	313 U	313 U
Lead	7.1	16.5	18.7
Manganese	202	2240.7	1681.1
Mercury	0.036 U	6.5 U	6.5 U
Nickel	6.5 J	34.4	25.6

BH7-11	Lab Analysis 10/10/2011 (0-2) ft BGS mg/kg	Screening Data 10/10/2011 (0-2) ft BGS mg/kg	Screening Data 10/10/2011 (8-10) ft BGS mg/kg
Metals			
Antimony	2.1 UCJ 1 U	19.8 UNS	19.8 U
Arsenic	1.3/1.4	3.18/NS	1.86
Cobalt	6.7 J6.9 J	313 UNS	313 U
Lead	7.2/6.8	26.9/NS	12.8
Manganese	149/137	2908.5/NS	2272.1
Mercury	0.036 U/0.033 U	6.5 UNS	6.5 U
Nickel	11.8/12.1	39.2/NS	37.3

BH1-11	Screening Data 9/13/2011 (0-2) ft BGS mg/kg	Screening Data 9/13/2011 (11-13) ft BGS mg/kg
Metals		
Antimony	19.8 U	1.8 U
Arsenic	1.46	2.63
Cobalt	34.2	33.7
Lead	11.9	12.6
Manganese	175	245
Mercury	0.18 U	6.5 U
Nickel	26.7	31.7

BH6-11	Screening Data 10/10/2011 (0-2) ft BGS mg/kg	Screening Data 10/10/2011 (13-15) ft BGS mg/kg
Metals		
Antimony	1.9 U	1.6 U
Arsenic	1.02	1.96
Cobalt	313 U	313 U
Lead	13.1	10.2
Manganese	2613	1819.7
Mercury	6.5 U	6.5 U
Nickel	35.7	26.3

BH8-11	Screening Data 10/10/2011 (0-2) ft BGS mg/kg	Lab Analysis 10/10/2011 (12-14) ft BGS mg/kg	Screening Data 10/10/2011 (12-14) ft BGS mg/kg
Metals			
Antimony	19.8 U	2.2 U	1.1 U
Arsenic	8.21	2.0	1.56
Cobalt	313 U	7.9 J	313 U
Lead	81.5	14.0	20.5
Manganese	2566.6	94.6	1920.1
Mercury	6.5 U	0.037 U	6.5 U
Nickel	39.7	14.4	36.4

MW32-11	Screening Data 9/20/2011 (0-2) ft BGS mg/kg	Screening Data 9/20/2011 (11-13) ft BGS mg/kg
Metals		
Antimony	1.1 U	2.9 U
Arsenic	3.88	2.86
Cobalt	46.8	6.3 U
Lead	25.3	25.4
Manganese	481.4	102.8
Mercury	6.5 U	6.5 U
Nickel	34.5	32.3

BH59-11	Screening Data 9/19/2011 (0-2) ft BGS mg/kg	Screening Data 9/19/2011 (16-18) ft BGS mg/kg
Metals		
Antimony	0.5 U	1.8 U
Arsenic	2.93	0.83
Cobalt	313 U	313 U
Lead	9.1	11.1
Manganese	2236.3	963.2
Mercury	6.5 U	6.5 U
Nickel	54.3	16.6

BH60-11	Screening Data 9/20/2011 (0-2) ft BGS mg/kg	Screening Data 9/20/2011 (13-15) ft BGS mg/kg
Metals		
Antimony	19.8 U	19.8 U
Arsenic	1.63	2.27
Cobalt	30.7	49.4
Lead	16.5	15.5
Manganese	170.4	125
Mercury	6.5 U	6.5 U
Nickel	30.6	41.7

BH5-11	Lab Analysis 9/15/2011 (0-2) ft BGS mg/kg	Screening Data 9/15/2011 (0-2) ft BGS mg/kg	Screening Data 9/15/2011 (7-9) ft BGS mg/kg
Metals			
Antimony	2.2 U	19.8 U	1.8 U
Arsenic	3.5	2.48	2.05
Cobalt	5.7 J	64.0	36.5
Lead	23.4	15.4	10.5
Manganese	145	343.2	231
Mercury	0.037 U	6.5 U	6.5 U
Nickel	10.1	37.1	29.3

BH61-11	Screening Data 9/19/2011 (0-2) ft BGS mg/kg	Lab Analysis 9/19/2011 (13-15) ft BGS mg/kg	Screening Data 9/19/2011 (13-15) ft BGS mg/kg
Metals			
Antimony	3.3	2.1 U	0.16 U
Arsenic	3.1	1.1 U	1.3
Cobalt	313 U	10.6 U	313 U
Lead	29.2	4.0	12.9
Manganese	1334.8	18.4	569.7
Mercury	6.5 U	0.029 J	6.5 U
Nickel	28	8.9	27.9

BH3-11	Screening Data 9/15/2011 (0-2) ft BGS mg/kg	Screening Data 9/15/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	2.7 U	3.5 U
Arsenic	6.4	2.71
Cobalt	34	8.6 U
Lead	14.7	13.1
Manganese	345.8	151.9
Mercury	7.63	6.5 U
Nickel	34.1	27.1

BH4-MW-23-11	Screening Data 9/15/2011 (0-2) ft BGS mg/kg	Screening Data 9/15/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	1.8 U	1.2 U
Arsenic	2.12	2.08
Cobalt	53.6	313 U
Lead	9.2	13.7
Manganese	272.9	217.8
Mercury	6.5 U	6.5 U
Nickel	32.1	29

0 50 150ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEEDANCE
- 2.1U/2.1U — DUPLICATE SAMPLE RESULTS
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (mg/kg)
Antimony	3.1
Arsenic	11
Cobalt	34
Lead	400
Manganese	2100
Mercury	1
Nickel	150

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

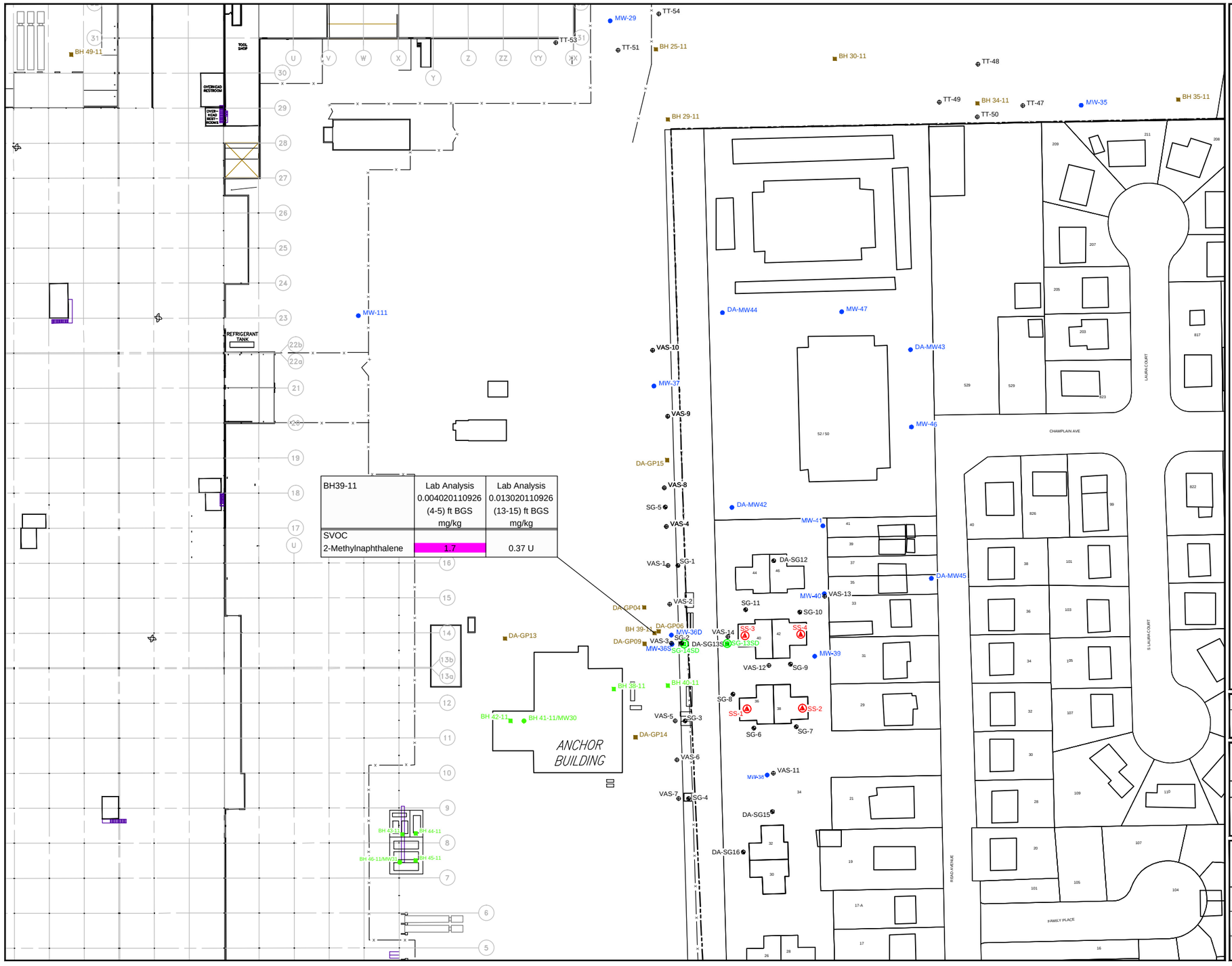
OU-3 SOIL METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=150'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.2

17338-00(020)GN-BU018 MAR 10/2015



BH39-11	Lab Analysis 0.004020110926 (4-5) ft BGS mg/kg	Lab Analysis 0.013020110926 (13-15) ft BGS mg/kg
SVOC		
2-Methylnaphthalene	1.7	0.37 U

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
2-Methylnaphthalene	1

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

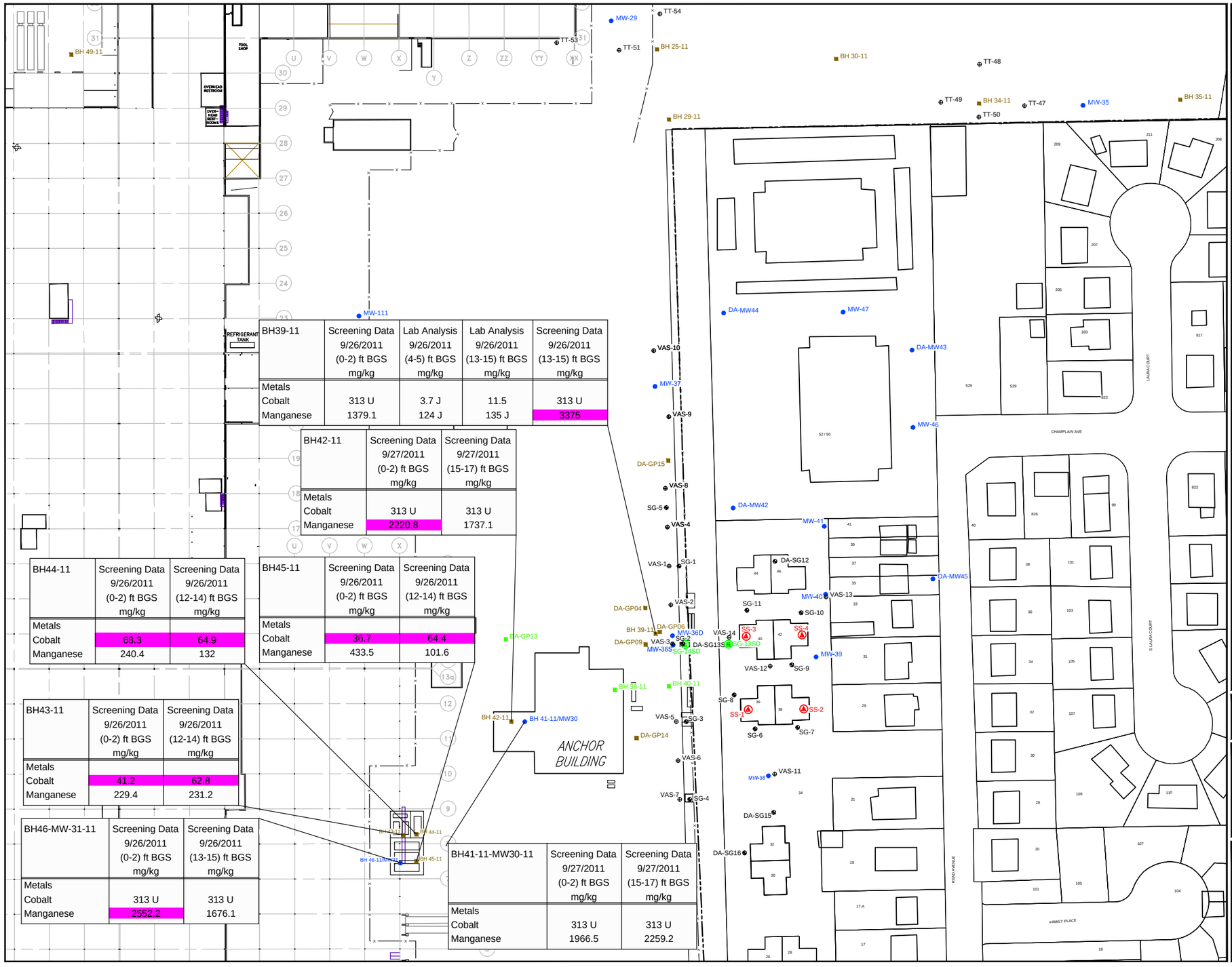
OU-4 SOIL NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=60'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.3

17338-00(020)GN-BU039 MAR 10/2015



BH39-11	Screening Data 9/26/2011 (0-2) ft BGS mg/kg	Lab Analysis 9/26/2011 (4-5) ft BGS mg/kg	Lab Analysis 9/26/2011 (13-15) ft BGS mg/kg	Screening Data 9/26/2011 (13-15) ft BGS mg/kg
Metals				
Cobalt	313 U	3.7 J	11.5	313 U
Manganese	1379.1	124 J	135 J	3375

BH42-11	Screening Data 9/27/2011 (0-2) ft BGS mg/kg	Screening Data 9/27/2011 (15-17) ft BGS mg/kg
Metals		
Cobalt	313 U	313 U
Manganese	2220.8	1737.1

BH44-11	Screening Data 9/26/2011 (0-2) ft BGS mg/kg	Screening Data 9/26/2011 (12-14) ft BGS mg/kg
Metals		
Cobalt	68.3	64.9
Manganese	240.4	132

BH45-11	Screening Data 9/26/2011 (0-2) ft BGS mg/kg	Screening Data 9/26/2011 (12-14) ft BGS mg/kg
Metals		
Cobalt	36.7	64.4
Manganese	433.5	101.6

BH43-11	Screening Data 9/26/2011 (0-2) ft BGS mg/kg	Screening Data 9/26/2011 (12-14) ft BGS mg/kg
Metals		
Cobalt	41.2	62.8
Manganese	229.4	231.2

BH46-MW-31-11	Screening Data 9/26/2011 (0-2) ft BGS mg/kg	Screening Data 9/26/2011 (13-15) ft BGS mg/kg
Metals		
Cobalt	313 U	313 U
Manganese	2552.2	1676.1

BH41-11-MW30-11	Screening Data 9/27/2011 (0-2) ft BGS mg/kg	Screening Data 9/27/2011 (15-17) ft BGS mg/kg
Metals		
Cobalt	313 U	313 U
Manganese	1966.5	2259.2

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- FUTURE BUILDING
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- INDOOR AIR AND SUB SLAB SAMPLE LOCATION
- NESTED SOIL GAS SAMPLE LOCATION (ONE AT 6' DEEP & ONE ABOVE WATER TABLE)
- TEST TRACK METALS DELINEATION SAMPLE
- VERTICAL AQUIFER SAMPLE LOCATION
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
Cobalt	34
Manganese	2100

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

OU-4 SOIL METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

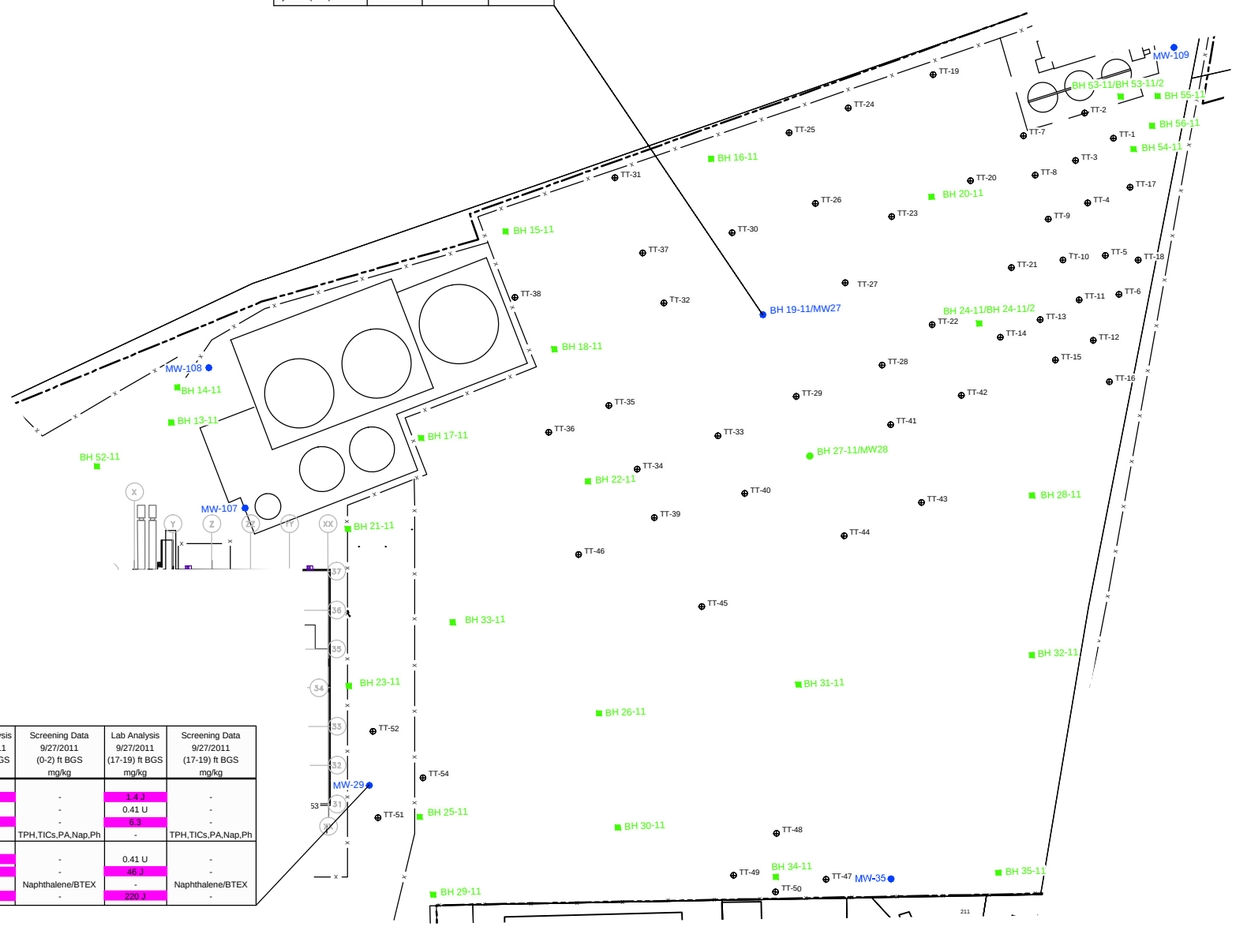
Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=60'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.4

17338-00(020)GN-BU019 MAR 10/2015

BH19-MW27-11	Lab Analysis 9/29/2011 (0-2) ft BGS mg/kg	Screening Data 9/29/2011 (0-2) ft BGS mg/kg	Screening Data 9/29/2011 (7-9) ft BGS mg/kg
SVOC			
2-Methylnaphthalene	0.44 U	-	-
Benzo(a)pyrene	0.2	-	-
Naphthalene	0.44 U	-	-
Total SVOCS	-	ND	ND
VOC			
1,4-Dichlorobenzene	0.1 U	-	-
Ethylbenzene	0.1 U	-	-
Total VOCS	-	ND	ND
Xylenes (total)	0.059 J	-	-

MW29-11	Lab Analysis 9/27/2011 (0-2) ft BGS mg/kg	Screening Data 9/27/2011 (0-2) ft BGS mg/kg	Lab Analysis 9/27/2011 (17-19) ft BGS mg/kg	Screening Data 9/27/2011 (17-19) ft BGS mg/kg
SVOC				
2-Methylnaphthalene	4.2 J	-	1.4 J	-
Benzo(a)pyrene	0.87 U	-	0.41 U	-
Naphthalene	22	-	6.3	-
Total SVOCS	-	TPH,TICs,PA,Nap,Ph	-	TPH,TICs,PA,Nap,Ph
VOC				
1,4-Dichlorobenzene	5.1	-	0.41 U	-
Ethylbenzene	22	-	46 J	-
Total VOCS	-	Naphthalene/BTEX	-	Naphthalene/BTEX
Xylenes (total)	100	-	220 J	-



0 40 80ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	***DNREC SIRS Screening Level (2014) (mg/kg)***
2-Methylnaphthalene	1
Benzo(a)pyrene	0.09
Naphthalene	5
1,4-Dichlorobenzene	2.4
Ethylbenzene	5.4
Xylenes (total)	63

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

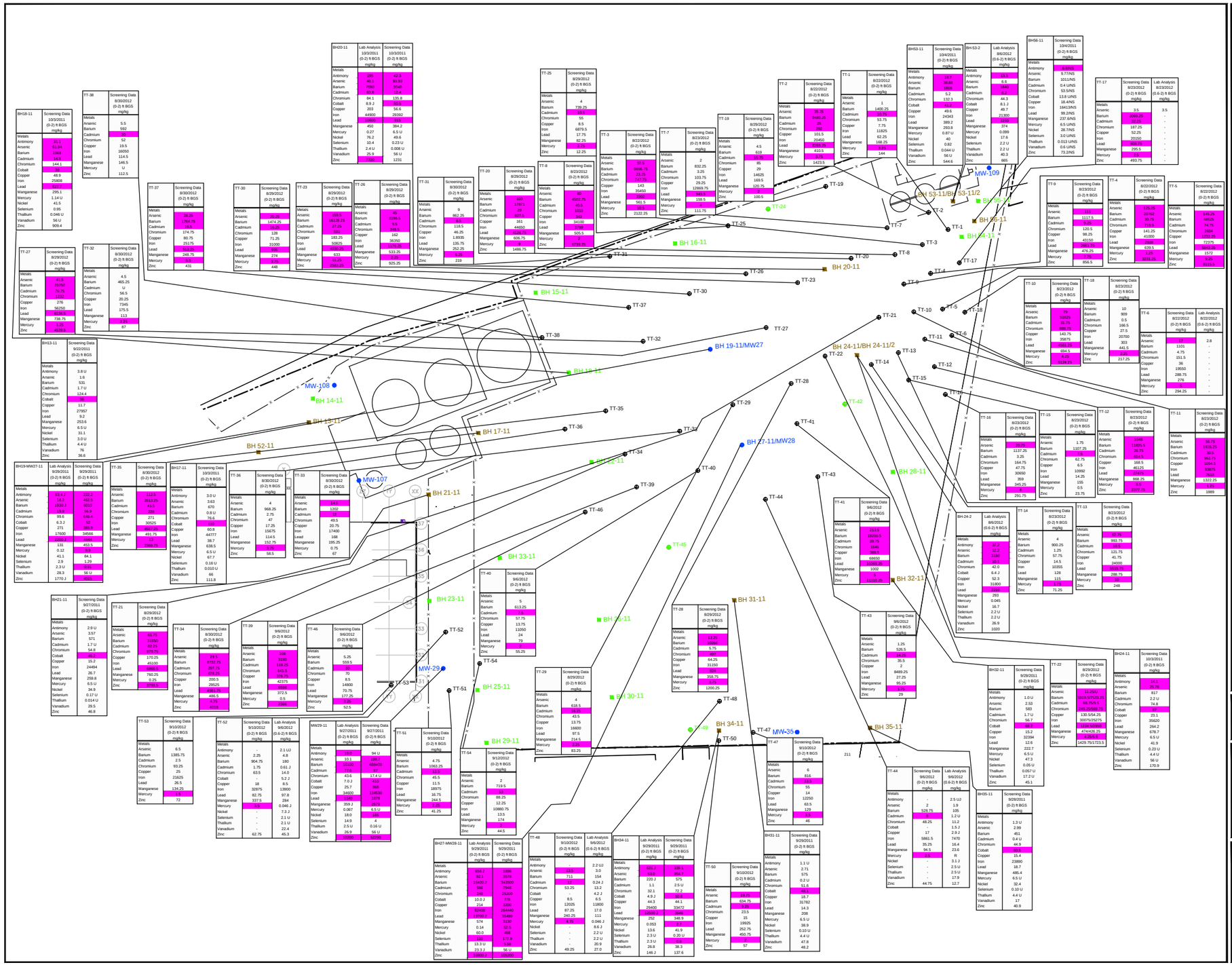
OU-5 SOIL NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.5

17338-00(020)GN-BU020 MAR 10/2015



PARAMETER	DNREC SIRS Screening Level (2014) (mg/kg)
Antimony	3.1
Arsenic	11
Barium	1500
Cadmium	7
Chromium	214
Cobalt	34
Copper	310
Iron	74767
Lead	400
Manganese	2100
Mercury	1
Nickel	150
Selenium	39
Thallium	0.078
Vanadium	134
Zinc	2300

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

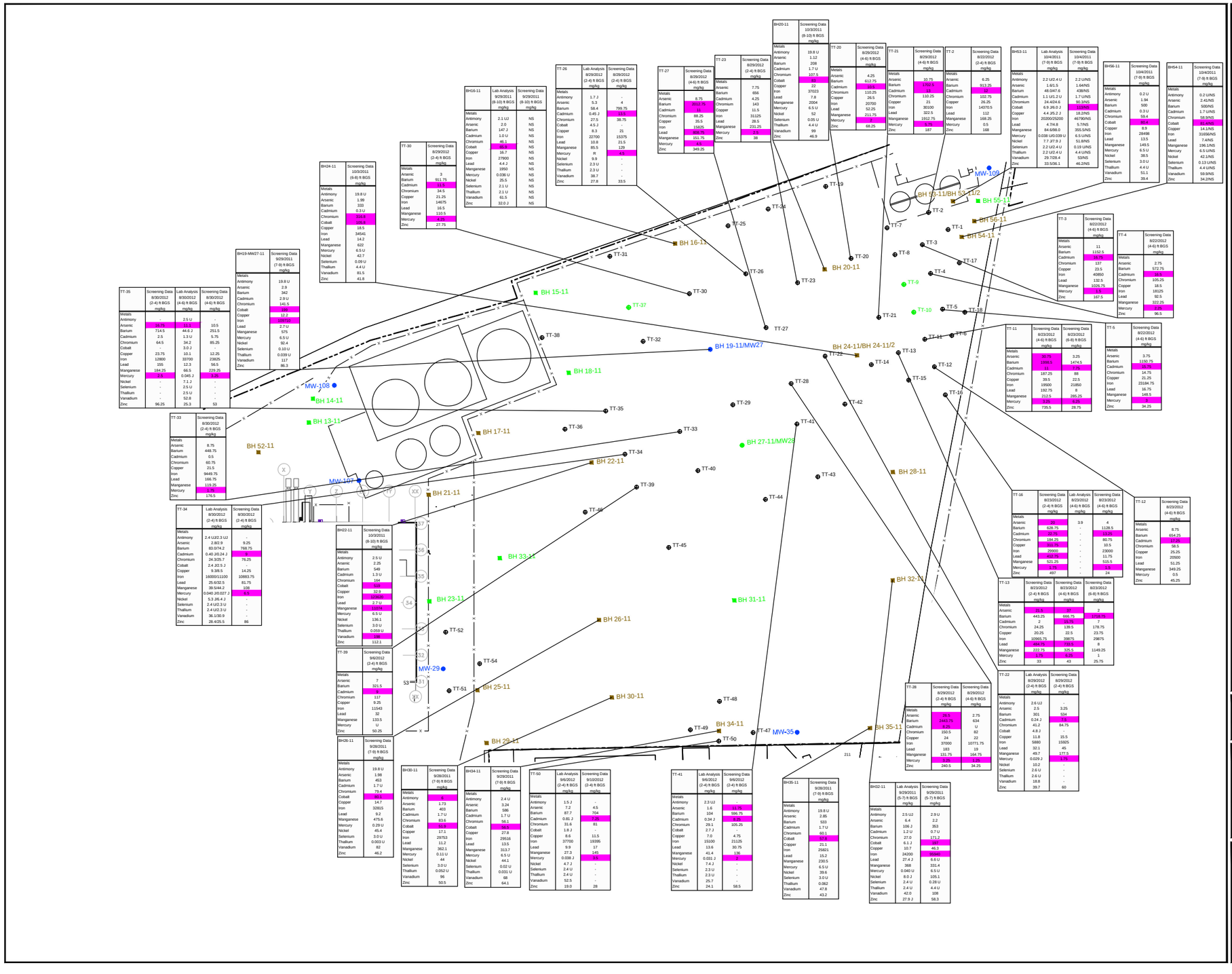
OU-5 SOIL 0'-2' METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.6A

17338-00(020)GN-BU021 MAR 10/2015



TT-35	Screening Data 8/30/2012 (2-4) ft BGS mg/kg	Lab Analysis 8/30/2012 (4-6) ft BGS mg/kg	Screening Data 8/30/2012 (4-6) ft BGS mg/kg
Metals			
Antimony	-	2.5 U	-
Arsenic	16.75	11.1	10.5
Barium	714.5	44.8 J	251.5
Cadmium	2.5	1.3 U	5.75
Chromium	64.5	34.2	85.25
Cobalt	-	3.0 J	-
Copper	23.75	10.1	12.25
Iron	12800	33700	23825
Lead	155	12.3	56.5
Manganese	184.25	66.5	229.25
Mercury	2.1	0.046 J	3.25
Nickel	-	7.1 J	-
Selenium	-	2.5 U	-
Thallium	-	2.5 U	-
Vanadium	-	52.8	-
Zinc	96.25	25.3	53

TT-33	Screening Data 8/30/2012 (2-4) ft BGS mg/kg
Metals	
Arsenic	8.75
Barium	448.75
Cadmium	0.5
Chromium	60.75
Copper	21.5
Iron	9448.75
Lead	166.75
Manganese	119.25
Mercury	1.75
Zinc	176.5

TT-34	Lab Analysis 8/30/2012 (2-4) ft BGS mg/kg	Screening Data 8/30/2012 (2-4) ft BGS mg/kg
Metals		
Antimony	2.4 UJ2.3 UJ	-
Arsenic	2.8/2.9	9.25
Barium	83.6/74.2	768.75
Cadmium	0.40 J/0.24 J	5
Chromium	34 J/35.7	76.25
Cobalt	2.4 J/2.5 J	-
Copper	9.3/8.5	14.25
Iron	16000/11100	10883.75
Lead	25.6/32.5	81.75
Manganese	39.5/44.2	108
Mercury	0.040 J/0.027 J	4.5
Nickel	5.3 J/6.4 J	-
Selenium	2.4 UJ/2.3 U	-
Thallium	2.4 UJ/2.3 U	-
Vanadium	36.1/30.9	-
Zinc	28.4/25.5	86

BH24-11	Screening Data 10/3/2011 (6-8) ft BGS mg/kg
Metals	
Antimony	19.8 U
Arsenic	1.99
Barium	103
Cadmium	0.3 U
Chromium	316.8
Cobalt	100.8
Copper	18.5
Iron	34541
Lead	14.2
Manganese	622
Mercury	6.5 U
Nickel	42.7
Selenium	0.09 U
Thallium	4.4 U
Vanadium	81.5
Zinc	41.8

BH19-MW27-11	Screening Data 9/29/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	19.8 U
Arsenic	2.9
Barium	342
Cadmium	2.9 U
Chromium	141.5
Cobalt	198
Copper	12.2
Iron	109710
Lead	2.7 U
Manganese	575
Mercury	6.5 U
Nickel	92.4
Selenium	0.10 U
Thallium	0.039 U
Vanadium	117
Zinc	86.3

TT-30	Screening Data 8/29/2012 (2-4) ft BGS mg/kg
Metals	
Arsenic	3
Barium	911.75
Cadmium	11.5
Chromium	34.5
Copper	21.25
Iron	14675
Lead	16.5
Manganese	110.5
Mercury	4.25
Zinc	27.75

BH16-11	Lab Analysis 9/29/2011 (8-10) ft BGS mg/kg	Screening Data 9/29/2011 (8-10) ft BGS mg/kg
Metals		
Antimony	2.1 UJ	NS
Arsenic	2.0	NS
Barium	147 J	NS
Cadmium	1.0 U	NS
Chromium	46.1	NS
Cobalt	60.8	NS
Copper	16.7	NS
Iron	27900	NS
Lead	4.4 J	NS
Manganese	1950	NS
Mercury	0.036 U	NS
Nickel	25.5	NS
Selenium	2.1 U	NS
Thallium	2.1 U	NS
Vanadium	61.5	NS
Zinc	32.0 J	NS

TT-26	Lab Analysis 8/29/2012 (2-4) ft BGS mg/kg	Screening Data 8/29/2012 (2-4) ft BGS mg/kg
Metals		
Antimony	1.7 J	-
Arsenic	5.3	4
Barium	58.4	799.75
Cadmium	0.45 J	13.5
Chromium	27.5	38.75
Cobalt	4.5 J	-
Copper	8.3	21
Iron	22700	15375
Lead	10.8	21.5
Manganese	85.5	129
Mercury	R	4.5
Nickel	9.9	-
Selenium	2.3 U	-
Thallium	2.3 U	-
Vanadium	38.7	-
Zinc	27.8	33.5

TT-27	Screening Data 8/29/2012 (4-6) ft BGS mg/kg
Metals	
Antimony	8.75
Arsenic	2012.75
Barium	13
Cadmium	88.25
Chromium	35.5
Copper	15825
Iron	400.75
Lead	151.75
Manganese	4.5
Mercury	-
Zinc	349.25

TT-23	Screening Data 8/29/2012 (2-4) ft BGS mg/kg
Metals	
Antimony	7.75
Arsenic	656
Barium	4.25
Cadmium	143
Chromium	11.5
Copper	31125
Iron	28.5
Lead	231.25
Manganese	2.5
Mercury	-
Zinc	38

BH20-11	Screening Data 10/3/2011 (8-10) ft BGS mg/kg
Metals	
Antimony	19.8 U
Arsenic	1.12
Barium	208
Cadmium	1.7 U
Chromium	107.5
Cobalt	63
Copper	22
Iron	37023
Lead	7.8
Manganese	2004
Mercury	6.5 U
Nickel	52
Selenium	0.05 U
Thallium	4.4 U
Vanadium	99
Zinc	46.9

TT-20	Screening Data 8/29/2012 (4-6) ft BGS mg/kg
Metals	
Arsenic	4.25
Barium	612.75
Cadmium	10.5
Chromium	110.25
Copper	26.5
Iron	20700
Lead	52.25
Manganese	211.75
Mercury	2
Zinc	68.25

TT-21	Screening Data 8/29/2012 (4-6) ft BGS mg/kg
Metals	
Antimony	10.75
Arsenic	1702.5
Barium	13
Cadmium	110.25
Chromium	21
Copper	30100
Iron	322.5
Lead	1912.75
Manganese	5.75
Mercury	187
Zinc	

TT-2	Screening Data 8/22/2012 (2-4) ft BGS mg/kg
Metals	
Antimony	6.25
Arsenic	913.25
Barium	13
Cadmium	102.75
Copper	26.25
Iron	14370.5
Lead	112
Manganese	168.25
Mercury	0.5
Zinc	168

BH53-11	Lab Analysis 10/4/2011 (7-9) ft BGS mg/kg	Screening Data 10/4/2011 (7-9) ft BGS mg/kg
Metals		
Antimony	2.2 UJ2.4 U	2.2 UNS
Arsenic	1.6/1.5	1.64/NS
Barium	48.0/47.6	436/NS
Cadmium	1.1 UI/1.2 U	1.7 UNS
Chromium	24.4/24.6	90.3/NS
Cobalt	6.9 J/6.2 J	13.75/S
Copper	4.4 J/5.2 J	18.2/NS
Iron	20200/20200	46790/NS
Lead	4.7/4.8	5.7/NS
Manganese	94.6/98.0	355.5/NS
Mercury	0.038 UI/0.039 U	6.5 UNS
Nickel	7.7 J/7.9 J	51.8/NS
Selenium	2.2 UJ/2.4 U	0.19 UNS
Thallium	2.2 UJ/2.4 U	4.4 UNS
Vanadium	29.7/28.4	53/NS
Zinc	33.5/36.1	46.2/NS

BH56-11	Screening Data 10/4/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	0.2 U
Arsenic	1.94
Barium	500
Cadmium	0.3 U
Chromium	59.4
Cobalt	80.4
Copper	8.9
Iron	28498
Lead	13.5
Manganese	149.5
Mercury	6.5 U
Nickel	38.5
Selenium	3.0 U
Thallium	4.4 U
Vanadium	51.1
Zinc	39.4

BH54-11	Screening Data 10/4/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	0.2 UNS
Arsenic	2.42/NS
Barium	500/NS
Cadmium	1.7 UNS
Chromium	58.9/NS
Cobalt	81.4/NS
Copper	14.1/NS
Iron	31656/NS
Lead	7.4/NS
Manganese	196.1/NS
Mercury	6.5 UNS
Nickel	42.1/NS
Selenium	0.13 UNS
Thallium	4.4 UNS
Vanadium	59.9/NS
Zinc	34.2/NS

TT-3	Screening Data 8/22/2012 (4-6) ft BGS mg/kg
Metals	
Arsenic	11
Barium	1152.5
Cadmium	16.75
Chromium	137
Copper	23.5
Iron	40850
Lead	132.5
Manganese	1026.75
Mercury	1.75
Zinc	167.5

TT-4	Screening Data 8/22/2012 (4-6) ft BGS mg/kg
Metals	
Arsenic	2.75
Barium	572.75
Cadmium	14.5
Chromium	105.25
Copper	18.5
Iron	18125
Lead	92.5
Manganese	322.25
Mercury	2.25
Zinc	96.5

TT-11	Screening Data 8/23/2012 (4-6) ft BGS mg/kg	Screening Data 8/23/2012 (6-8) ft BGS mg/kg
Metals		
Antimony	30.75	3.25
Arsenic	1998.5	1474.5
Barium	7	7.5
Cadmium	187.25	88
Chromium	39.5	22.5
Copper	19500	21850
Iron	192.75	8
Lead	212.5	285.25
Manganese	3.25	6.25
Mercury	735.5	28.75
Zinc		

TT-5	Screening Data 8/22/2012 (4-6) ft BGS mg/kg
Metals	
Arsenic	3.75
Barium	1150.75
Cadmium	16.75
Chromium	14.75
Copper	21.25
Iron	23184.75
Lead	16.75
Manganese	148.5
Mercury	3
Zinc	34.25

TT-16	Screening Data 8/23/2012 (2-4) ft BGS mg/kg	Lab Analysis 8/23/2012 (4-6) ft BGS mg/kg	Screening Data 8/23/2012 (4-6) ft BGS mg/kg
Metals			
Arsenic	28	3.9	4
Barium	628.75	-	1128.5
Cadmium	22.25	-	13.25
Chromium	184.25	-	80.75
Copper	311.75	-	10.5
Iron	29900	-	23000
Lead	412.75	-	11.75
Manganese	521.25	-	515.5
Mercury	1.75	-	1.5
Zinc	497	-	24

TT-12	Screening Data 8/23/2012 (4-6) ft BGS mg/kg
Metals	
Arsenic	8.75
Barium	654.25
Cadmium	12.5
Chromium	58.5
Copper	25.25
Iron	20500
Lead	51.25
Manganese	349.25
Mercury	0.5
Zinc	45.25

TT-13	Screening Data 8/23/2012 (2-4) ft BGS mg/kg	Screening Data 8/23/2012 (4-6) ft BGS mg/kg	Screening Data 8/23/2012 (6-8) ft BGS mg/kg
Metals			
Arsenic	21.5	37	2
Barium	443.25	666.75	1734.75
Cadmium	2	15.75	7
Chromium	24.25	139.5	178.75
Copper	20.25	22.5	23.75
Iron	10965.75	39875	29875
Lead	464.75	733.5	8
Manganese	222.75	325.5	1149.25
Mercury	1.75	4.25	1
Zinc	33	43	25.75

TT-22	Lab Analysis 8/29/2012 (2-4) ft BGS mg/kg	Screening Data 8/29/2012 (2-4) ft BGS mg/kg
Metals		
Antimony	2.6 UJ	-
Arsenic	2.5	3.25
Barium	301	554
Cadmium	0.24 J	7.5
Chromium	41.2	84.75
Cobalt	4.8 J	-
Copper	11.8	15.5
Iron	5880	15925
Lead	32.1	45
Manganese	49.7	177.5
Mercury	0.029 J	1.75
Nickel	10.2	-
Selenium	2.6 U	-
Thallium	2.6 U	-
Vanadium	18.8	-
Zinc	39.7	60

TT-28	Screening Data 8/29/2012 (2-4) ft BGS mg/kg	Screening Data 8/29/2012 (4-6) ft BGS mg/kg
Metals		
Arsenic	24.5	2.75
Barium	2043.25	634
Cadmium	8.25	U
Chromium	150.5	82
Copper	24	22
Iron	37000	10771.75
Lead	183	19
Manganese	131.75	164.75
Mercury	2.25	1.25
Zinc	240.5	34.25

BH35-11	Screening Data 9/28/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	19.8 U
Arsenic	2.85
Barium	533
Cadmium	1.7 U
Chromium	60.1
Cobalt	57.6
Copper	21.1
Iron	25821
Lead	15.2
Manganese	230.5
Mercury	6.5 U
Nickel	39.6
Selenium	3.0 U
Thallium	0.062
Vanadium	47.8
Zinc	43.2

BH32-11	Lab Analysis 9/29/2011 (5-7) ft BGS mg/kg	Screening Data 9/29/2011 (5-7) ft BGS mg/kg
Metals		
Antimony	2.5 UJ	2.9 U
Arsenic	6.4	2.2
Barium	106 J	353
Cadmium	1.2 U	0.7 U
Chromium	27.0	171.2
Cobalt	6.1 J	9.7
Copper	10.7	46.3
Iron	24200	40240
Lead	27.4 J	6.6 U
Manganese	368	331.4
Mercury	0.040 U	6.5 U
Nickel	8.0 J	105.1
Selenium	2.4 U	0.28 U
Thallium	2.4 U	4.4 U
Vanadium	42.0	108
Zinc	27.9 J	58.3

BH22-11	Screening Data 10/3/2011 (8-10) ft BGS mg/kg
Metals	
Antimony	2.5 U
Arsenic	2.25
Barium	548
Cadmium	1.3 U
Chromium	164
Cobalt	9.5
Copper	32.5
Iron	12360.25
Lead	2.7 U
Manganese	11.05
Mercury	6.5 U
Nickel	136.1
Selenium	3.0 U
Thallium	0.059 U
Vanadium	138
Zinc	112.1

TT-39	Screening Data 9/6/2012 (2-4) ft BGS mg/kg
Metals	
Arsenic	7
Barium	321.5
Cadmium	5
Chromium	117
Copper	9.25
Iron	11543
Lead	32
Manganese	133.5
Mercury	U
Zinc	50.25

BH26-11	Screening Data 9/28/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	19.8 U
Arsenic	1.98
Barium	453
Cadmium	1.7 U
Chromium	79.4
Cobalt	60.1
Copper	14.7
Iron	32815
Lead	9.2
Manganese	475.6
Mercury	0.29 U
Nickel	45.4
Selenium	3.0 U
Thallium	0.033 U
Vanadium	82
Zinc	46.2

BH30-11	Screening Data 9/28/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	8
Arsenic	1.73
Barium	403
Cadmium	1.7 U
Chromium	83.6
Cobalt	51.9
Copper	17.1
Iron	29753
Lead	11.2
Manganese	362.1
Mercury	0.11 U
Nickel	44
Selenium	3.0 U
Thallium	0.052 U
Vanadium	96
Zinc	50.5

BH34-11	Screening Data 9/29/2011 (7-9) ft BGS mg/kg
Metals	
Antimony	2.4 U
Arsenic	3.24
Barium	586
Cadmium	1.7 U
Chromium	56.1
Cobalt	16.9
Copper	27.8
Iron	29516
Lead	13.5
Manganese	313.7
Mercury	6.5 U
Nickel	44.1
Selenium	0.02 U
Thallium	0.031 U
Vanadium	68
Zinc	64.1

TT-50	Lab Analysis 9/6/2012 (2-4) ft BGS mg/kg	Screening Data 9/10/2012 (2-4) ft BGS mg/kg
Metals		
Antimony	1.5 J	-
Arsenic	7.2	4.5
Barium	87.7	704
Cadmium	0.81 J	7.25
Chromium	31.6	81
Cobalt	1.8 J	-
Copper	8.6	11.5
Iron	37700	19395
Lead	9.5	17
Manganese	27.3	145
Mercury	0.038 J	3.5
Nickel	4.7 J	-
Selenium	2.4 U	-
Thallium	2.4 U	-
Vanadium	52.5	-
Zinc	19.0	28

TT-41	Lab Analysis 9/6/2012 (2-4) ft BGS mg/kg	Screening Data 9/6/2012 (2-4) ft BGS mg/kg
Metals		
Antimony	2.3 UJ	-
Arsenic	1.6	11.75
Barium	0.34 J	556.75
Cadmium	29.1	8.25
Cobalt	2.7 J	-
Copper	7.0	4.75
Iron	15100	21125
Lead	13.6	30.75
Manganese	41.4	136
Mercury	0.031 J	2
Nickel	7.4 J	-
Selenium	2.3 U	-
Thallium	2.3 U	-
Vanadium	25.7	-
Zinc	24.1	58.5

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- TEST TRACK METALS DELINEATION SAMPLE
- BH 15-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (mg/kg)
Antimony	3.1
Arsenic	11
Barium	1500
Cadmium	7
Chromium	214
Cobalt	34
Copper	310
Iron	74767
Lead	400
Manganese	2100
Mercury	1
Nickel	150
Selenium	39
Thallium	0.078
Vanadium	134
Zinc	2300

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

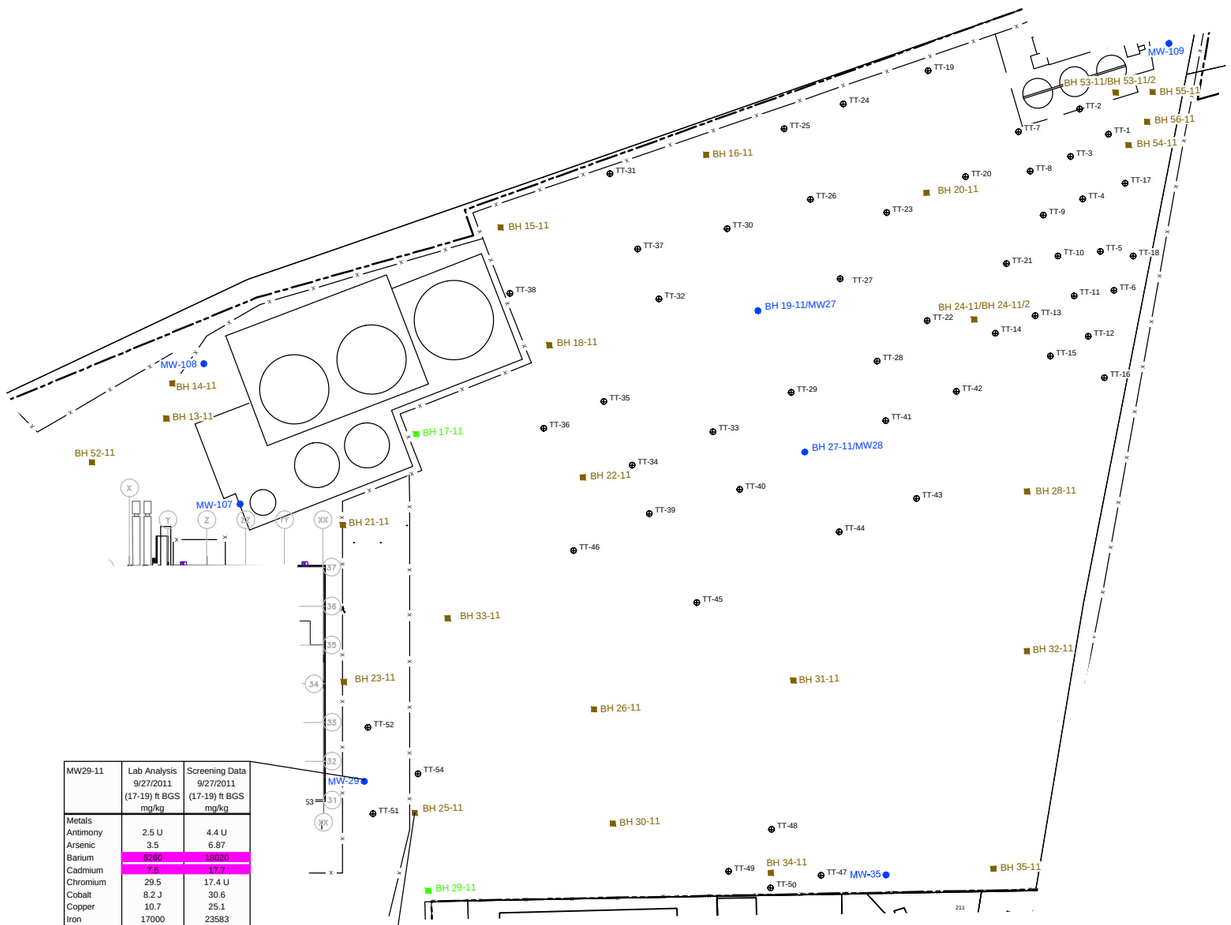
OU-5 SOIL 2'-10' METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.6B

17338-00(020)GN-BU022 MAR 10/2015



MW29-11	Lab Analysis 9/27/2011 (17-19) ft BGS mg/kg	Screening Data 9/27/2011 (17-19) ft BGS mg/kg
Metals		
Antimony	2.5 U	4.4 U
Arsenic	3.5	6.87
Barium	5260	18020
Cadmium	7.6	17.7
Chromium	29.5	17.4 U
Cobalt	8.2 J	30.6
Copper	10.7	25.1
Iron	17000	23583
Lead	48.3	62.9
Manganese	100 J	222.1
Mercury	0.039 U	6.5 U
Nickel	16.1	36.9
Selenium	2.5 U	0.64
Thallium	2.5 U	4.4 U
Vanadium	25.5	56 U
Zinc	665	1229

BH25-11	Screening Data 9/28/2011 (13-14) ft BGS mg/kg
Metals	
Antimony	2.3 U
Arsenic	2.25
Barium	588
Cadmium	1.7 U
Chromium	59.1
Cobalt	41.8
Copper	17.8
Iron	21279
Lead	16.1
Manganese	168.3
Mercury	6.5 U
Nickel	36.8
Selenium	0.18 U
Thallium	0.046 U
Vanadium	50.7
Zinc	52.3

0 40 80ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (mg/kg)
Antimony	3.1
Arsenic	11
Barium	1500
Cadmium	7
Chromium	214
Cobalt	34
Copper	310
Iron	74767
Lead	400
Manganese	2100
Mercury	1
Nickel	150
Selenium	39
Thallium	0.078
Vanadium	134
Zinc	2300

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

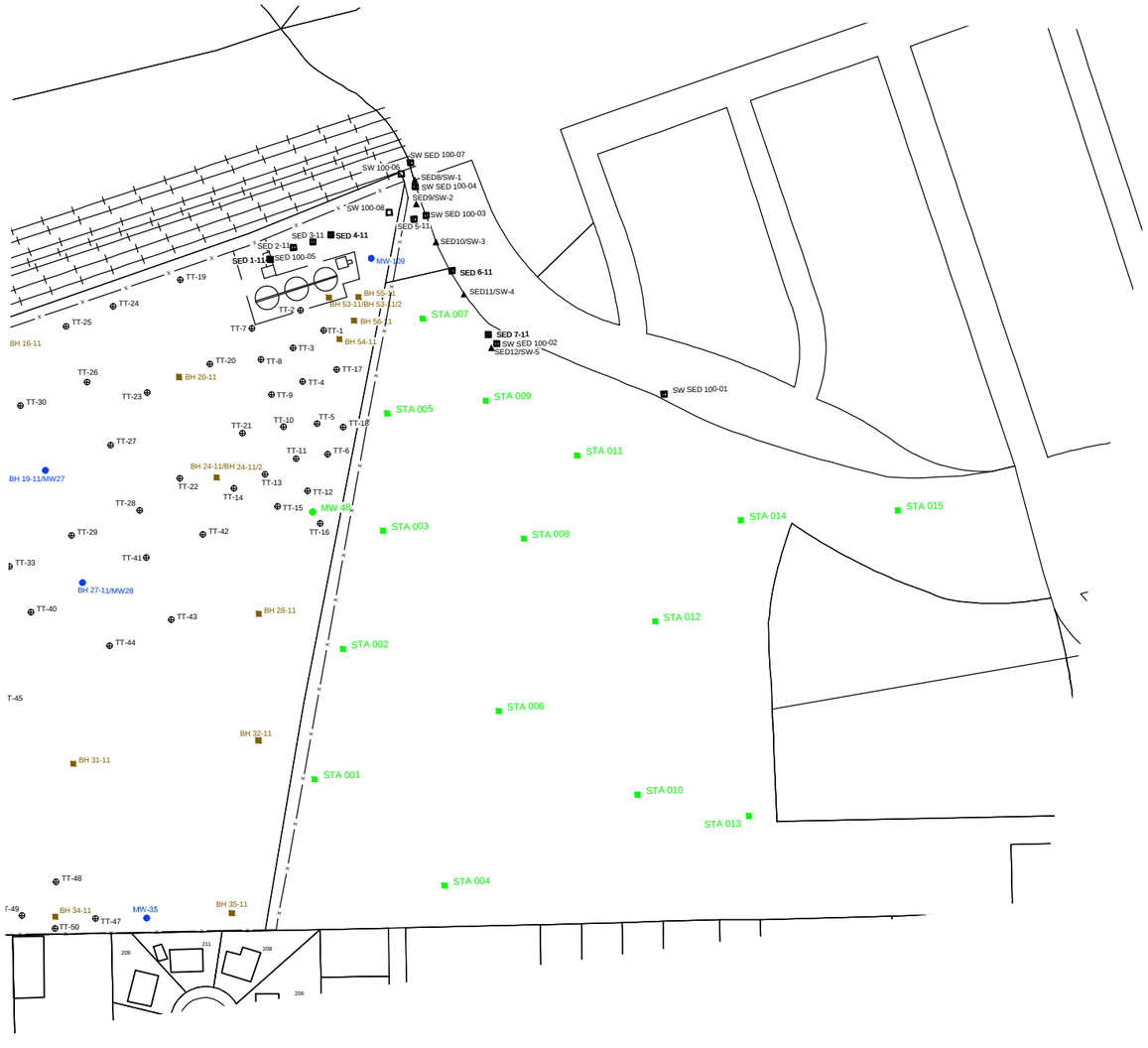
OU-5 SOIL >10' METAL COPCS EXCEEDING SCREENING CRITERIA

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.6C

17338-00(020)GN-BU023 MAR 10/2015



0 50 100ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- GROUNDWATER CONTOUR
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- STA 015 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (mg/kg)
Benzo(a)pyrene	0.09

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

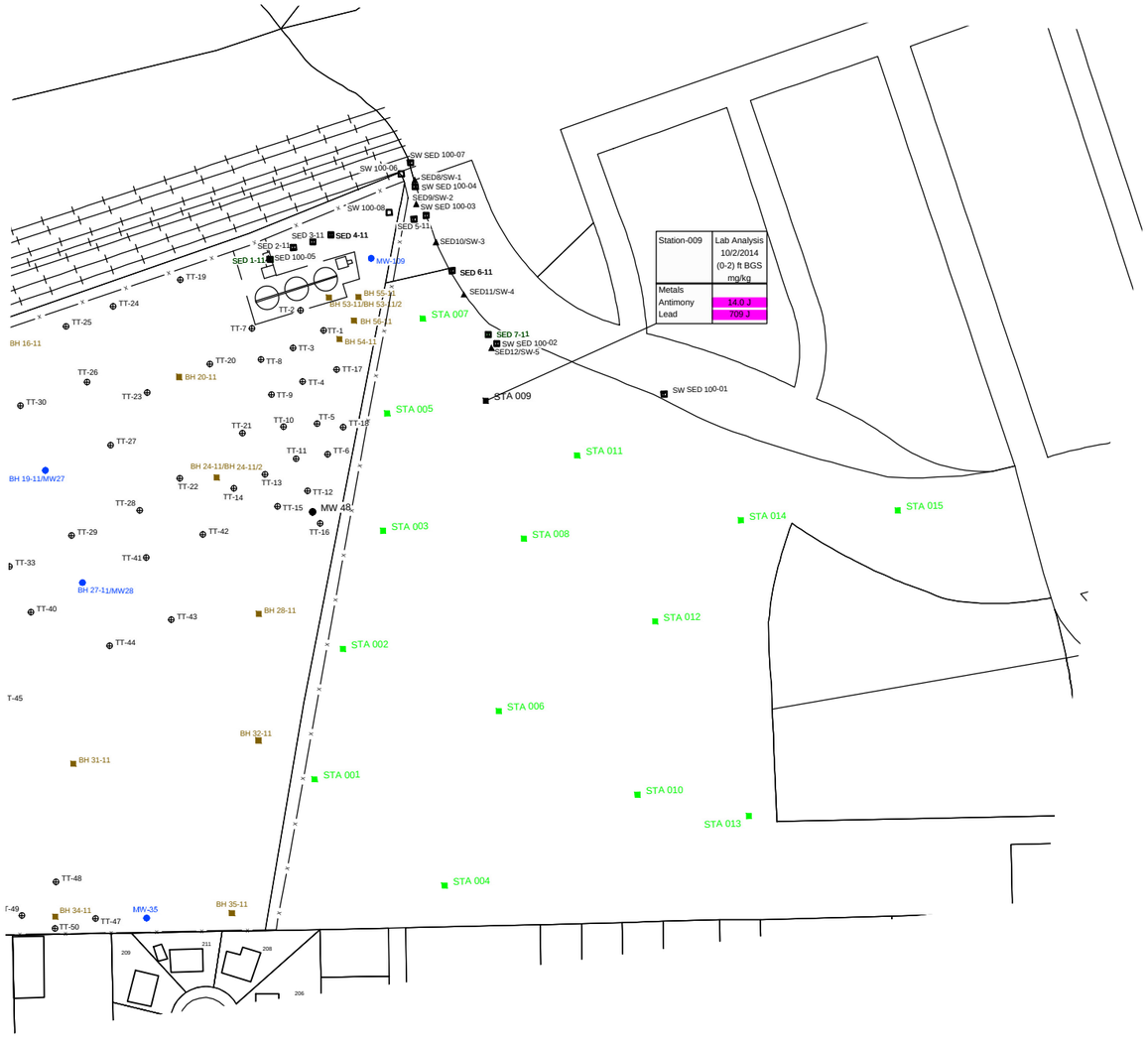
OU-6 SOIL NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.7

17338-00(020)GN-BU024 MAR 10/2015



Station-009	Lab Analysis 10/2/2014 (0-2) ft BGS mg/kg
Metals	
Antimony	14.0 J
Lead	709 J

0 50 100ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- GROUNDWATER CONTOUR
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- STA 015 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
Antimony	3.1
Lead	400

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

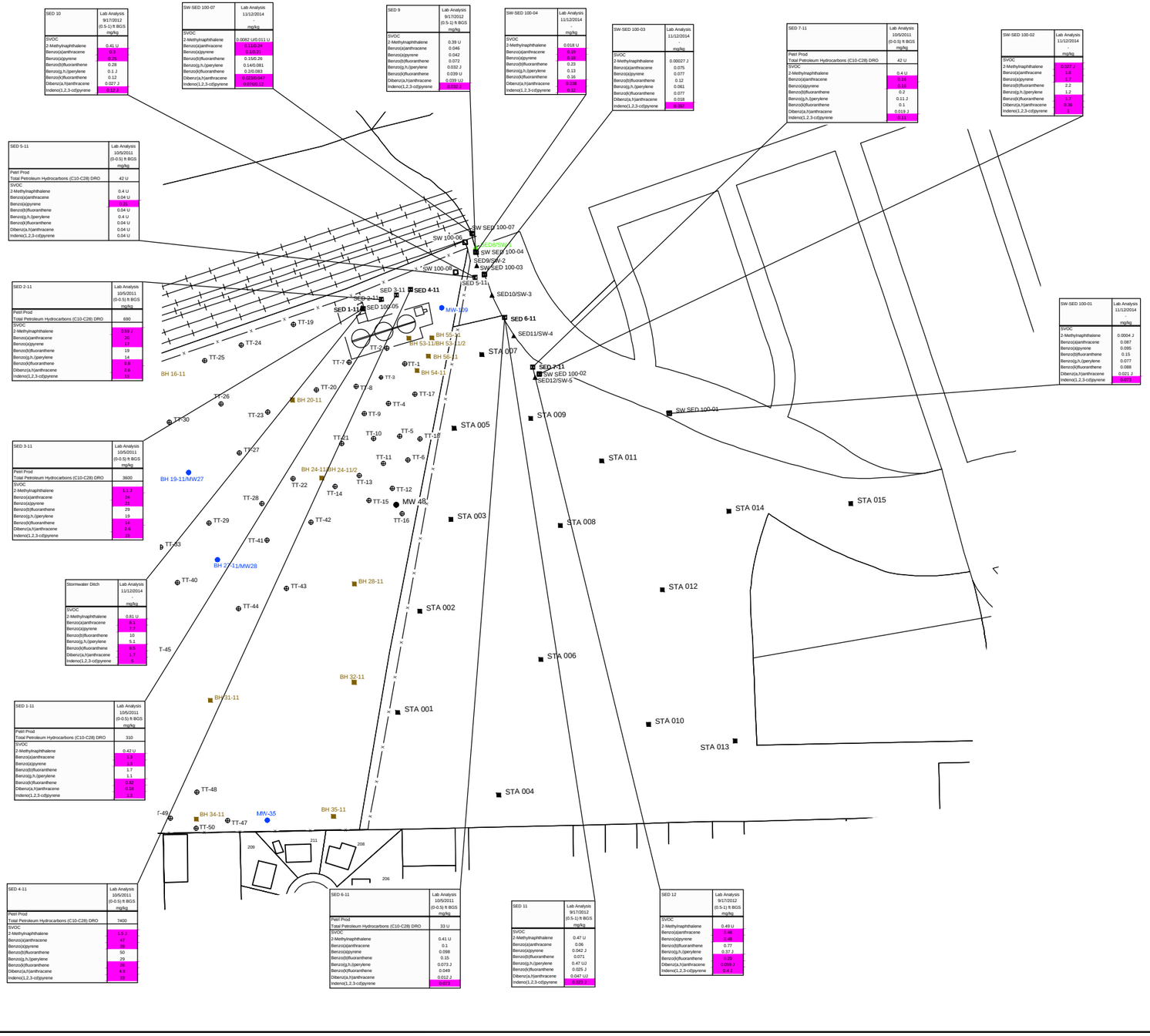
OU-6 SOIL METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.8

17338-00(020)GN-BU025 MAR 10/2015



0 50 100ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- GROUNDWATER CONTOUR
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
2-Methylnaphthalene	0.0202
Benzo(a)anthracene	0.108
Benzo(a)pyrene	0.15
Benzo(b)fluoranthene	NC
Benzo(g.h.i)perylene	NC
Benzo(k)fluoranthene	0.24
Dibenz(a,h)anthracene	0.033
Indeno(1,2,3-cd)pyrene	0.017

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

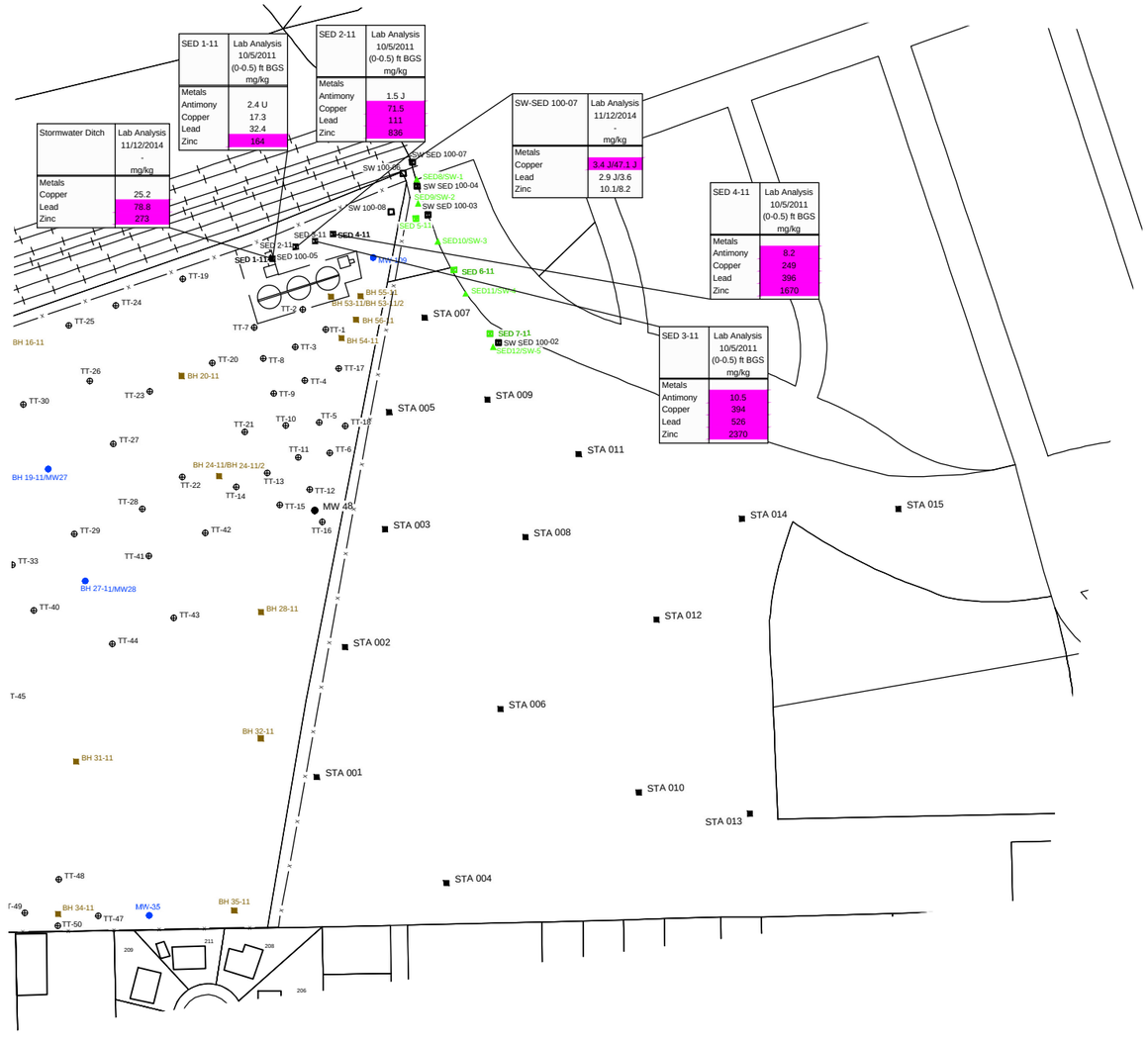
OU-6 SEDIMENT NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.9

17338-00(020)GN-BU035 MAR 10/2015



0 50 100ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- GROUNDWATER CONTOUR
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- SED 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (mg/kg)*
Antimony	2
Copper	31.6
Lead	35.8
Zinc	121

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

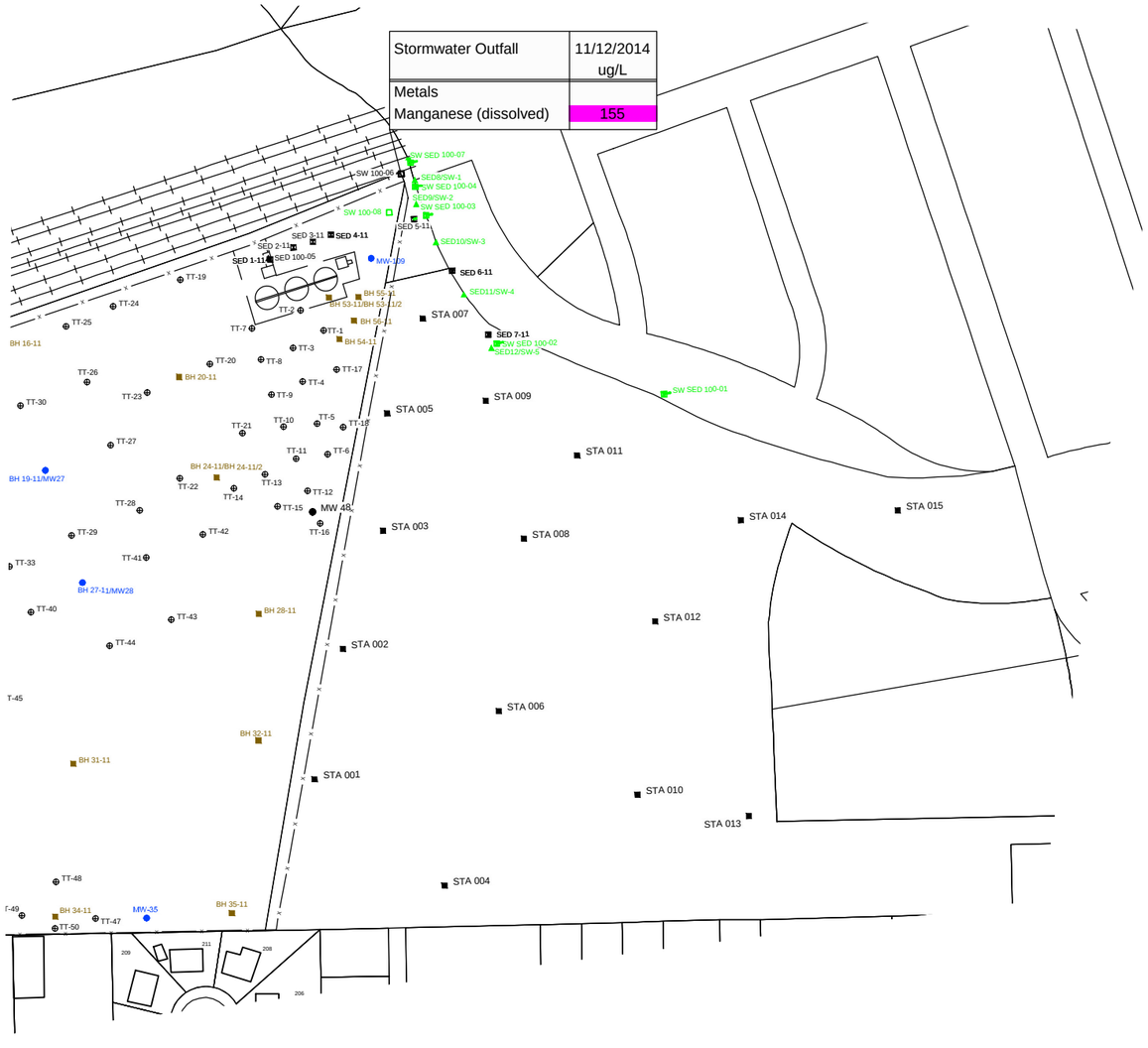
OU-6 SEDIMENT METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.10

17338-00(020)GN-BU036 MAR 10/2015



0 50 100ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- GROUNDWATER CONTOUR
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- BH 13-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (ug/L)*
Manganese	120
Manganese (dissolved)	120

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

OU-6 SURFACE WATER METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.11

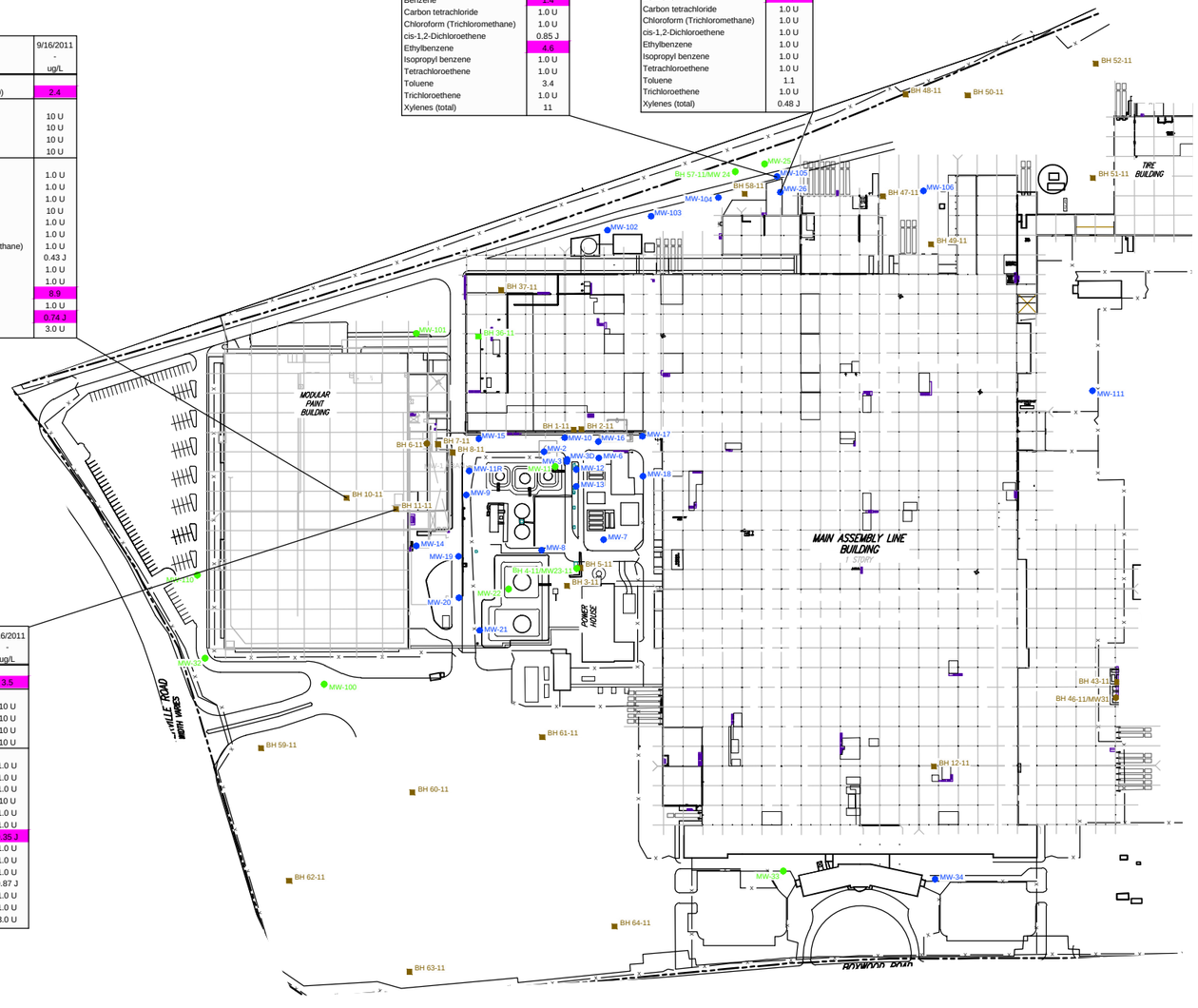
17338-00(020)GN-BU038 MAR 10/2015

MW-105	11/2/2011 - ug/L
PCBs	
Aroclor-1260 (PCB-1260)	0.51 U
SVOC	
2-Methylnaphthalene	10 U
Biphenyl (1,1-Biphenyl)	10 U
Dibenzofuran	10 U
Naphthalene	10 U
VOC	
1,1-Dichloroethane	1.4
1,2-Dichloroethane	1.0 U
1,4-Dichlorobenzene	1.0 U
2-Hexanone	10 U
Benzene	1.4
Carbon tetrachloride	1.0 U
Chloroform (Trichloromethane)	1.0 U
cis-1,2-Dichloroethene	0.85 J
Ethylbenzene	4.6
Isopropyl benzene	1.0 U
Tetrachloroethene	1.0 U
Toluene	3.4
Trichloroethene	1.0 U
Xylenes (total)	11

MW-26	10/31/2011 - ug/L
PCBs	
Aroclor-1260 (PCB-1260)	0.51 U
SVOC	
2-Methylnaphthalene	10 U
Biphenyl (1,1-Biphenyl)	10 U
Dibenzofuran	10 U
Naphthalene	10 U
VOC	
1,1-Dichloroethane	7.8
1,2-Dichloroethane	1.0 U
1,4-Dichlorobenzene	1.0 U
2-Hexanone	10 U
Benzene	1.8
Carbon tetrachloride	1.0 U
Chloroform (Trichloromethane)	1.0 U
cis-1,2-Dichloroethene	1.0 U
Ethylbenzene	1.0 U
Isopropyl benzene	1.0 U
Tetrachloroethene	1.0 U
Toluene	1.1
Trichloroethene	1.0 U
Xylenes (total)	0.48 J

BH10-11	9/16/2011 - ug/L
PCBs	
Aroclor-1260 (PCB-1260)	2.4
SVOC	
2-Methylnaphthalene	10 U
Biphenyl (1,1-Biphenyl)	10 U
Dibenzofuran	10 U
Naphthalene	10 U
VOC	
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,4-Dichlorobenzene	1.0 U
2-Hexanone	10 U
Benzene	1.0 U
Carbon tetrachloride	1.0 U
Chloroform (Trichloromethane)	1.0 U
cis-1,2-Dichloroethene	0.43 J
Ethylbenzene	1.0 U
Isopropyl benzene	1.0 U
Tetrachloroethene	8.9
Toluene	1.0 U
Trichloroethene	6.74 J
Xylenes (total)	3.0 U

BH11-11	9/16/2011 - ug/L
PCBs	
Aroclor-1260 (PCB-1260)	3.5
SVOC	
2-Methylnaphthalene	10 U
Biphenyl (1,1-Biphenyl)	10 U
Dibenzofuran	10 U
Naphthalene	10 U
VOC	
1,1-Dichloroethane	1.0 U
1,2-Dichloroethane	1.0 U
1,4-Dichlorobenzene	1.0 U
2-Hexanone	10 U
Benzene	1.0 U
Carbon tetrachloride	1.0 U
Chloroform (Trichloromethane)	0.35 J
cis-1,2-Dichloroethene	1.0 U
Ethylbenzene	1.0 U
Isopropyl benzene	1.0 U
Tetrachloroethene	0.87 J
Toluene	1.0 U
Trichloroethene	1.0 U
Xylenes (total)	3.0 U



MW-11	11/7/2011 - ug/L	10/11/2012 - ug/L
VOC		
Toluene	4.4	37

0 50 150ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (ug/L)
Aroclor-1260 (PCB-1260)	0.034
1,4-Dichlorobenzene	0.42
2-Methylnaphthalene	2.7
Biphenyl (1,1-Biphenyl)	0.083
Dibenzofuran	0.58
Naphthalene	0.14
1,1-Dichloroethane	2.4
1,2,4-Trimethylbenzene	1.5
1,2-Dichloroethane	0.15
1,4-Dichlorobenzene	0.42
2-Hexanone	3.4
Benzene	0.39
Carbon tetrachloride	0.39
Chloroform (Trichloromethane)	0.19
cis-1,2-Dichloroethene	2.8
Ethylbenzene	1.3
Isopropyl benzene	39
Naphthalene	0.14
Tetrachloroethene	1
Toluene	86
Trichloroethene	0.26
Xylenes (total)	19

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

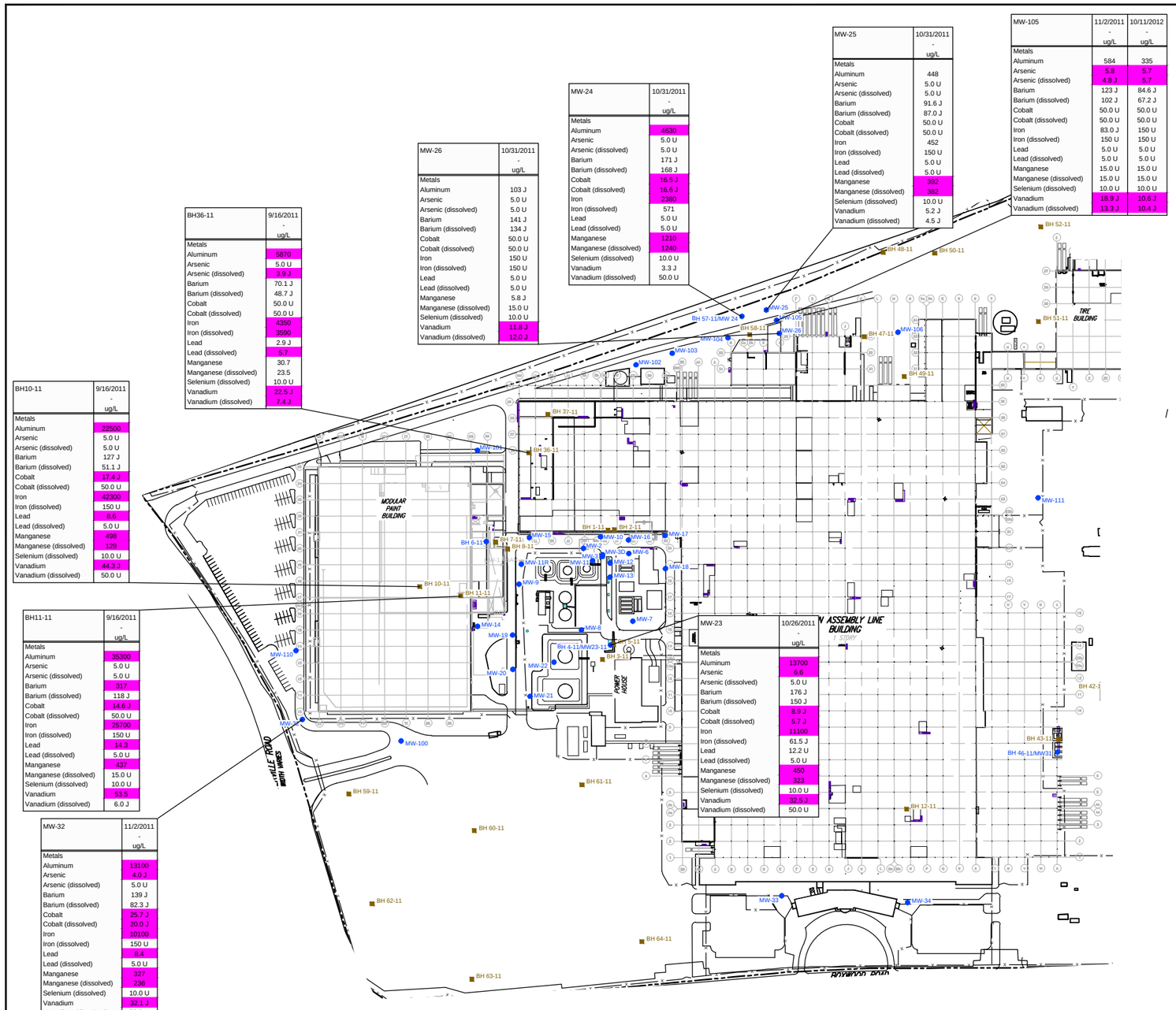
OU-3 GROUNDWATER NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=150'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.12

17338-00(020)GN-BU026 MAR 10/2015



MW-25	10/31/2011 - ug/L
Metals	
Aluminum	448
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	91.6 J
Barium (dissolved)	87.0 J
Cobalt	50.0 U
Cobalt (dissolved)	50.0 U
Iron	452
Iron (dissolved)	150 U
Lead	5.0 U
Lead (dissolved)	5.0 U
Manganese	382
Manganese (dissolved)	382
Selenium (dissolved)	10.0 U
Vanadium	5.2 J
Vanadium (dissolved)	4.5 J

MW-105	11/2/2011 - ug/L	10/11/2012 - ug/L
Metals		
Aluminum	584	335
Arsenic	5.8	5.7
Arsenic (dissolved)	4.8 J	5.7
Barium	123 J	84.6 J
Barium (dissolved)	102 J	67.2 J
Cobalt	50.0 U	50.0 U
Cobalt (dissolved)	50.0 U	50.0 U
Iron	83.0 J	150 U
Iron (dissolved)	150 U	150 U
Lead	5.0 U	5.0 U
Lead (dissolved)	5.0 U	5.0 U
Manganese	15.0 U	15.0 U
Manganese (dissolved)	15.0 U	15.0 U
Selenium (dissolved)	10.0 U	10.0 U
Vanadium	18.9 J	10.6 J
Vanadium (dissolved)	13.3 J	10.4 J

MW-24	10/31/2011 - ug/L
Metals	
Aluminum	4630
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	171 J
Barium (dissolved)	168 J
Cobalt	16.5 J
Cobalt (dissolved)	16.6 J
Iron	2380
Iron (dissolved)	571
Lead	5.0 U
Lead (dissolved)	5.0 U
Manganese	1210
Manganese (dissolved)	1240
Selenium (dissolved)	10.0 U
Vanadium	3.3 J
Vanadium (dissolved)	50.0 U

MW-26	10/31/2011 - ug/L
Metals	
Aluminum	103 J
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	141 J
Barium (dissolved)	134 J
Cobalt	50.0 U
Cobalt (dissolved)	50.0 U
Iron	150 U
Iron (dissolved)	150 U
Lead	5.0 U
Lead (dissolved)	5.0 U
Manganese	5.8 J
Manganese (dissolved)	15.0 U
Selenium (dissolved)	10.0 U
Vanadium	11.8 J
Vanadium (dissolved)	12.0 J

BH36-11	9/16/2011 - ug/L
Metals	
Aluminum	5870
Arsenic	5.0 U
Arsenic (dissolved)	3.9 J
Barium	70.1 J
Barium (dissolved)	48.7 J
Cobalt	50.0 U
Cobalt (dissolved)	50.0 U
Iron	4350
Iron (dissolved)	3590
Lead	2.9 J
Lead (dissolved)	5.7
Manganese	30.7
Manganese (dissolved)	23.5
Selenium (dissolved)	10.0 U
Vanadium	22.5 J
Vanadium (dissolved)	7.4 J

BH10-11	9/16/2011 - ug/L
Metals	
Aluminum	22500
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	127 J
Barium (dissolved)	51.1 J
Cobalt	17.4 J
Cobalt (dissolved)	50.0 U
Iron	42300
Iron (dissolved)	150 U
Lead	8.6
Lead (dissolved)	5.0 U
Manganese	459
Manganese (dissolved)	129
Selenium (dissolved)	10.0 U
Vanadium	44.3 J
Vanadium (dissolved)	50.0 U

BH11-11	9/16/2011 - ug/L
Metals	
Aluminum	35300
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	317
Barium (dissolved)	118 J
Cobalt	14.6 J
Cobalt (dissolved)	50.0 U
Iron	25700
Iron (dissolved)	150 U
Lead	14.3
Lead (dissolved)	5.0 U
Manganese	437
Manganese (dissolved)	15.0 U
Selenium (dissolved)	10.0 U
Vanadium	53.5
Vanadium (dissolved)	6.0 J

MW-32	11/2/2011 - ug/L
Metals	
Aluminum	13100
Arsenic	4.0 J
Arsenic (dissolved)	5.0 U
Barium	139 J
Barium (dissolved)	82.3 J
Cobalt	25.7 J
Cobalt (dissolved)	20.0 J
Iron	10100
Iron (dissolved)	150 U
Lead	8.4
Lead (dissolved)	5.0 U
Manganese	327
Manganese (dissolved)	236
Selenium (dissolved)	10.0 U
Vanadium	32.1 J
Vanadium (dissolved)	50.0 U

MW-23	10/26/2011 - ug/L
Metals	
Aluminum	13700
Arsenic	6.6
Arsenic (dissolved)	5.0 U
Barium	176 J
Barium (dissolved)	150 J
Cobalt	8.9 J
Cobalt (dissolved)	5.7 J
Iron	11100
Iron (dissolved)	61.5 J
Lead	12.2 U
Lead (dissolved)	5.0 U
Manganese	450
Manganese (dissolved)	323
Selenium (dissolved)	10.0 U
Vanadium	32.5 J
Vanadium (dissolved)	50.0 U

0 50 150ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- MW 24-11 MONITORING WELL
- BH 54-11 BOREHOLE
- BH 25-11 LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (ug/L)*
Aluminum	1600
Arsenic	0.045
Arsenic (dissolved)	0.045
Barium	290
Barium (dissolved)	290
Cobalt	0.47
Cobalt (dissolved)	0.47
Iron	1100
Iron (dissolved)	1100
Lead	5
Lead (dissolved)	5
Manganese	32
Manganese (dissolved)	32
Selenium (dissolved)	7.8
Vanadium	6.3
Vanadium (dissolved)	6.3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

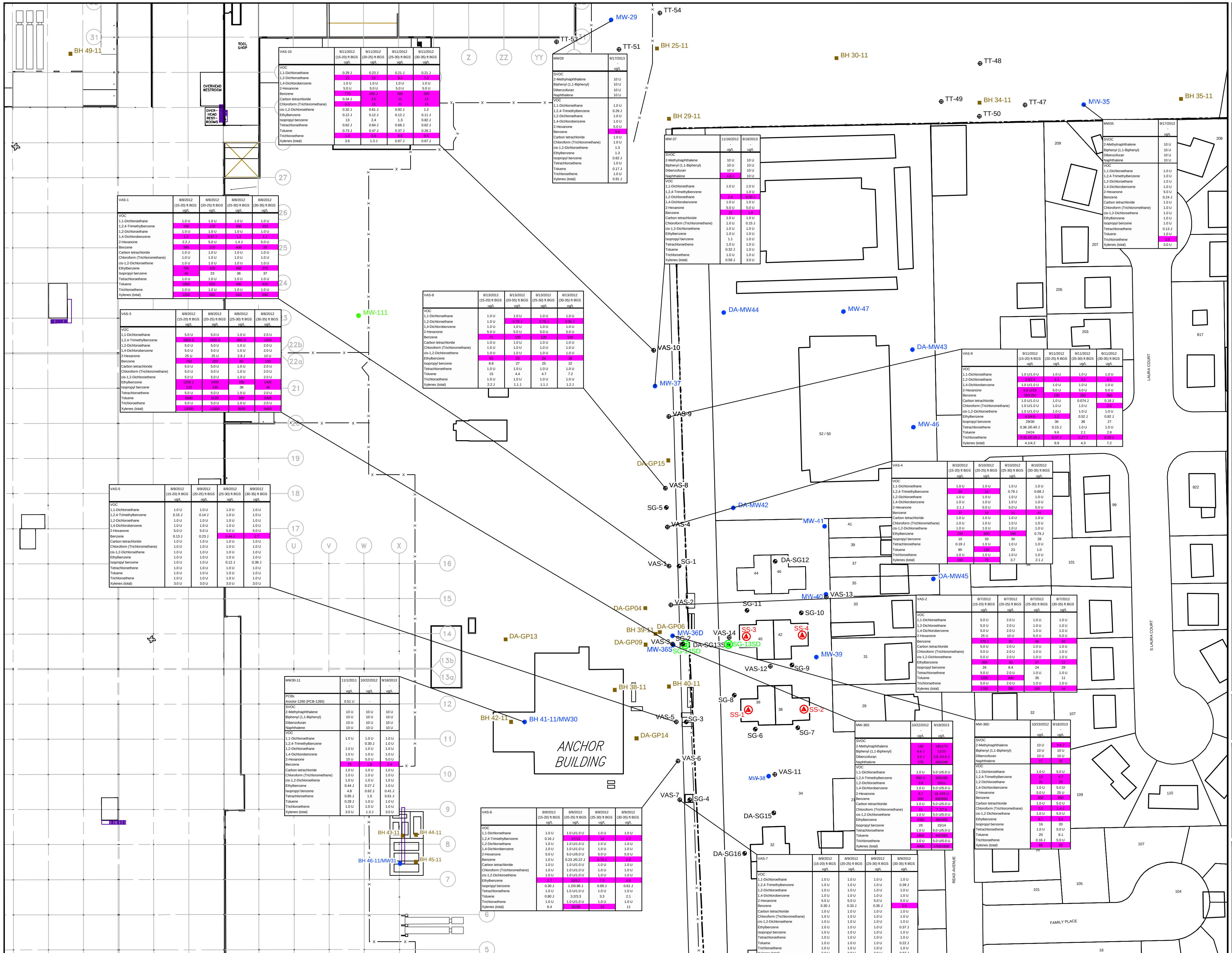
OU-3 GROUNDWATER METAL COPCS EXCEEDING SCREENING CRITERIA

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=150'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.13

17338-00(020)GN-BU027 MAR 10/2015



0 20 60ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- FUTURE BUILDING
- MW 24-11 MONITORING WELL
- SG-5 SOIL GAS SAMPLE LOCATION
- BH 54-11 BOREHOLE
- INDOOR AIR AND SUB SLAB SAMPLE LOCATION
- NESTED SOIL GAS SAMPLE LOCATION (ONE AT 6' DEEP & ONE ABOVE WATER TABLE)
- TEST TRACK METALS DELINEATION SAMPLE
- VERTICAL AQUIFER SAMPLE LOCATION
- BH 25-11 LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (ug/L)*
Aroclor-1260 (PCB-1260)	0.034
1,4-Dichlorobenzene	0.42
2-Methylnaphthalene	2.7
Biphenyl (1,1-Biphenyl)	0.083
Dibenzofuran	0.58
Naphthalene	0.14
1,1-Dichloroethane	2.4
1,2,4-Trimethylbenzene	1.5
1,2-Dichloroethane	0.15
1,4-Dichlorobenzene	0.42
2-Hexanone	3.4
Benzene	0.39
Carbon tetrachloride	0.39
Chloroform (Trichloromethane)	0.19
cis-1,2-Dichloroethene	2.8
Ethylbenzene	1.3
Isopropyl benzene	39
Naphthalene	0.14
Tetrachloroethene	1
Toluene	86
Trichloroethene	0.26
Xylenes (total)	19

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

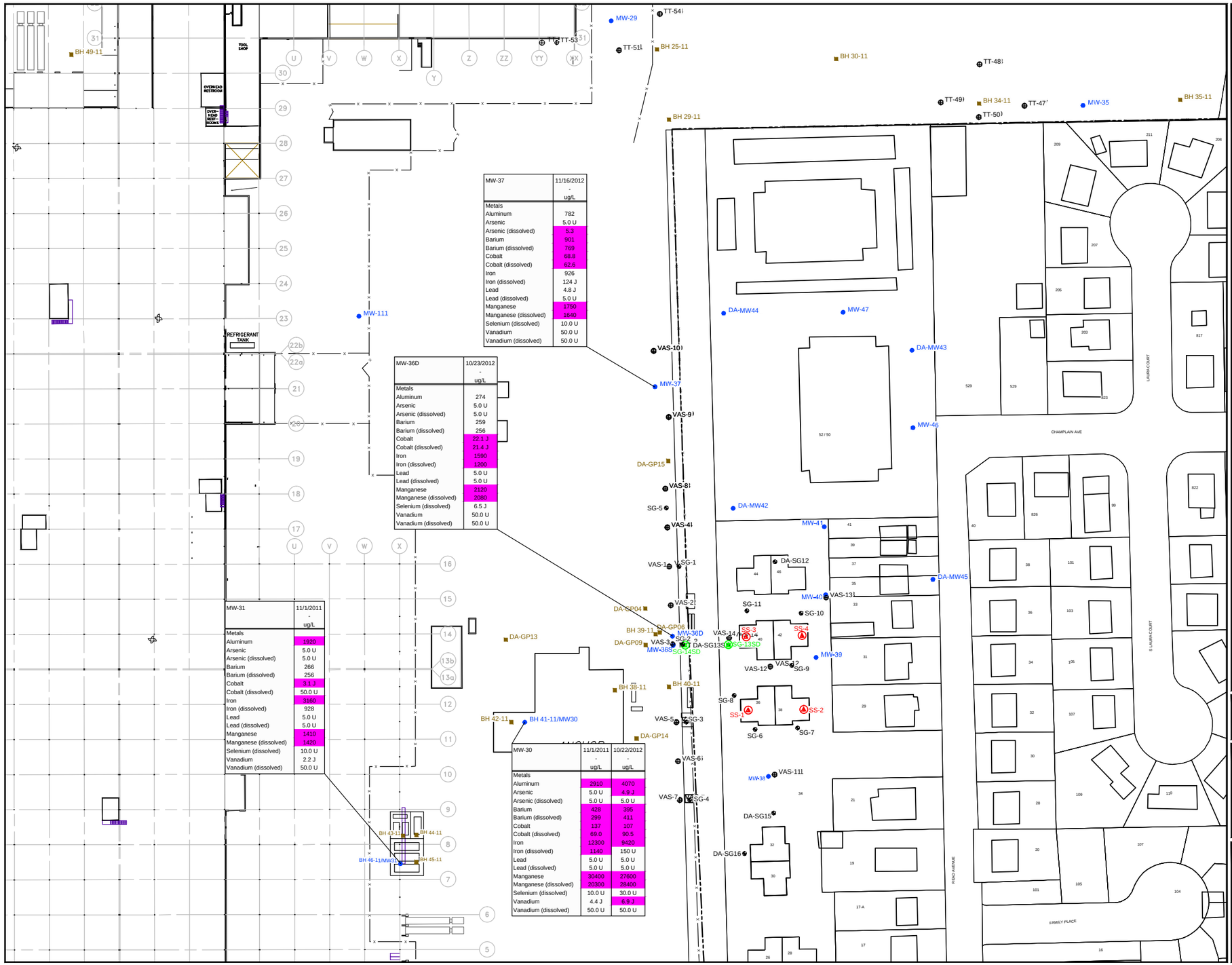
OU-4 GROUNDWATER NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=60'	Project Nº: 17338-T04	Report Nº: 020	Drawing Nº: 4.14

17338-00(020)GN-BU028 MAR 10/2015



MW-37	11/16/2012 - ug/L
Metals	
Aluminum	782
Arsenic	5.0 U
Arsenic (dissolved)	5.3
Barium	901
Barium (dissolved)	769
Cobalt	68.8
Cobalt (dissolved)	62.6
Iron	926
Iron (dissolved)	124 J
Lead	4.8 J
Lead (dissolved)	5.0 U
Manganese	1750
Manganese (dissolved)	1640
Selenium (dissolved)	10.0 U
Vanadium	50.0 U
Vanadium (dissolved)	50.0 U

MW-36D	10/23/2012 - ug/L
Metals	
Aluminum	274
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	259
Barium (dissolved)	256
Cobalt	22.1 J
Cobalt (dissolved)	21.4 J
Iron	1590
Iron (dissolved)	1200
Lead	5.0 U
Lead (dissolved)	5.0 U
Manganese	2120
Manganese (dissolved)	2080
Selenium (dissolved)	6.5 J
Vanadium	50.0 U
Vanadium (dissolved)	50.0 U

MW-31	11/1/2011 - ug/L
Metals	
Aluminum	1920
Arsenic	5.0 U
Arsenic (dissolved)	5.0 U
Barium	266
Barium (dissolved)	256
Cobalt	31.3
Cobalt (dissolved)	50.0 U
Iron	3160
Iron (dissolved)	928
Lead	5.0 U
Lead (dissolved)	5.0 U
Manganese	1410
Manganese (dissolved)	1420
Selenium (dissolved)	10.0 U
Vanadium	2.2 J
Vanadium (dissolved)	50.0 U

MW-30	11/1/2011 - ug/L	10/22/2012 - ug/L
Metals		
Aluminum	2910	4070
Arsenic	5.0 U	4.9 J
Arsenic (dissolved)	5.0 U	5.0 U
Barium	428	395
Barium (dissolved)	299	411
Cobalt	137	107
Cobalt (dissolved)	69.0	90.5
Iron	12300	9420
Iron (dissolved)	1140	150 U
Lead	5.0 U	5.0 U
Lead (dissolved)	5.0 U	5.0 U
Manganese	30400	27600
Manganese (dissolved)	20300	28400
Selenium (dissolved)	10.0 U	30.0 U
Vanadium	4.4 J	6.9 J
Vanadium (dissolved)	50.0 U	50.0 U

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- FUTURE BUILDING
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- A — INDOOR AIR AND SUB SLAB SAMPLE LOCATION
- 10 — NESTED SOIL GAS SAMPLE LOCATION (ONE AT 6' DEEP & ONE ABOVE WATER TABLE)
- TEST TRACK METALS DELINEATION SAMPLE
- VERTICAL AQUIFER SAMPLE LOCATION
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (ug/L)
Aluminum	1600
Arsenic	0.045
Arsenic (dissolved)	0.045
Barium	290
Barium (dissolved)	290
Cobalt	0.47
Cobalt (dissolved)	0.47
Iron	1100
Iron (dissolved)	1100
Lead	5
Lead (dissolved)	5
Manganese	32
Manganese (dissolved)	32
Selenium (dissolved)	7.8
Vanadium	6.3
Vanadium (dissolved)	6.3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

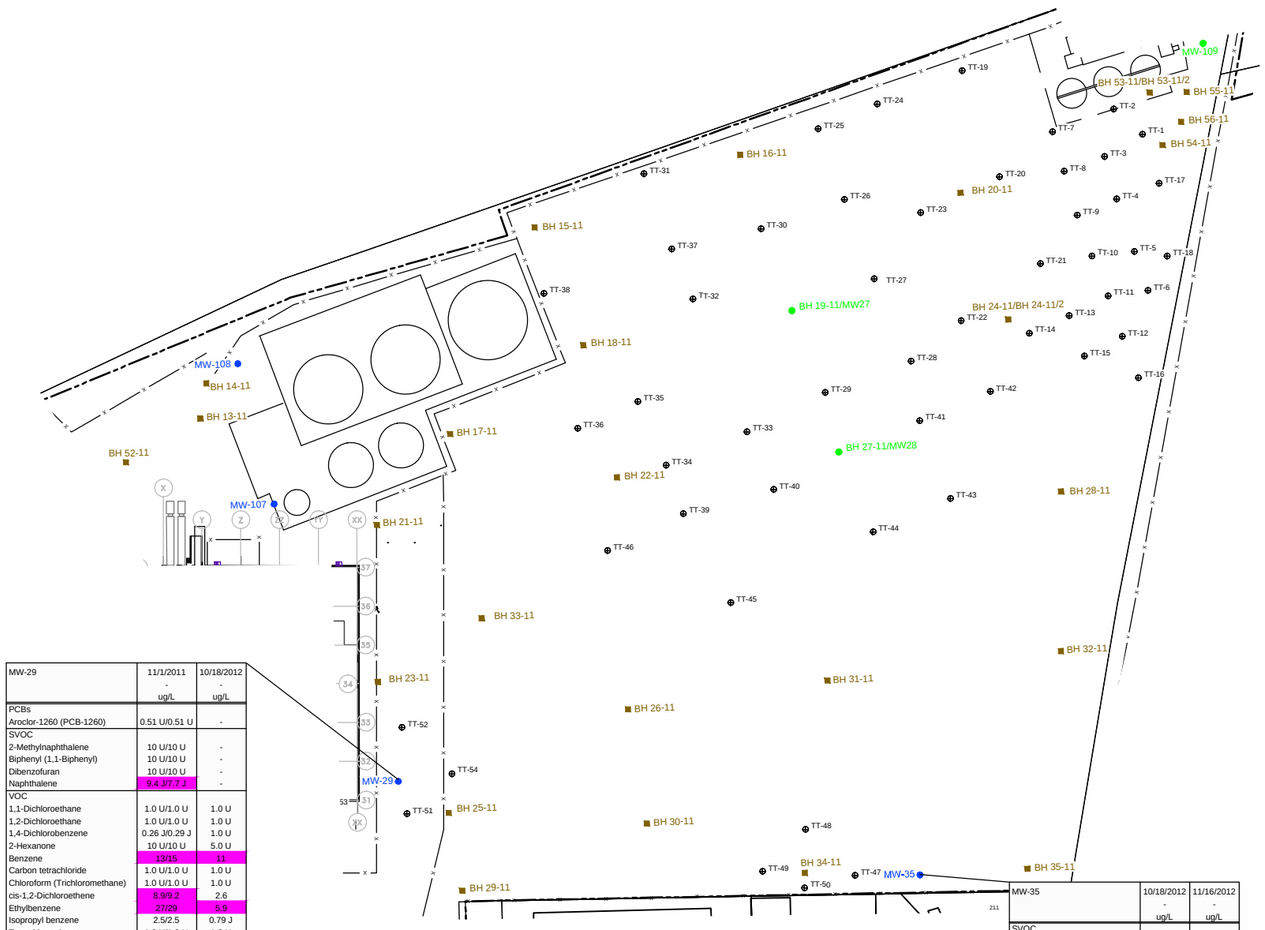
OU-4 GROUNDWATER METAL COPCS EXCEEDING SCREENING CRITERIA

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=60'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.15

17338-00(020)GN-BU029 MAR 10/2015



MW-29	11/1/2011 - ug/L	10/18/2012 - ug/L
PCBs		
Aroclor-1260 (PCB-1260)	0.51 U/0.51 U	-
SVOC		
2-Methylnaphthalene	10 U/10 U	-
Biphenyl (1,1-Biphenyl)	10 U/10 U	-
Dibenzofuran	10 U/10 U	-
Naphthalene	9.4 J/7.7 J	-
VOC		
1,1-Dichloroethane	1.0 U/1.0 U	1.0 U
1,2-Dichloroethane	1.0 U/1.0 U	1.0 U
1,4-Dichlorobenzene	0.26 J/0.29 J	1.0 U
2-Hexanone	10 U/10 U	5.0 U
Benzene	13/15	11
Carbon tetrachloride	1.0 U/1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U/1.0 U	1.0 U
cis-1,2-Dichloroethene	8.9/9.2	2.6
Ethylbenzene	27/29	5.9
Isopropyl benzene	2.5/2.5	0.79 J
Tetrachloroethene	1.0 U/1.0 U	1.0 U
Toluene	30/31	1.5
Trichloroethene	0.69 J/0.62 J	1.0 U
Xylenes (total)	140/140	7.9

MW-35	10/18/2012 - ug/L	11/16/2012 - ug/L
SVOC		
2-Methylnaphthalene	-	10 U
Biphenyl (1,1-Biphenyl)	-	10 U
Dibenzofuran	-	10 U
Naphthalene	-	10 U
VOC		
1,1-Dichloroethane	1.0 U	-
1,2-Dichloroethane	1.0 U	-
1,4-Dichlorobenzene	1.0 U	-
2-Hexanone	5.0 U	-
Benzene	0.45 J	-
Carbon tetrachloride	1.0 U	-
Chloroform (Trichloromethane)	1.0 U	-
cis-1,2-Dichloroethene	1.0 U	-
Ethylbenzene	0.28 J	-
Isopropyl benzene	1.0 U	-
Tetrachloroethene	1.0 U	-
Toluene	1.0 U	-
Trichloroethene	0.87 J	-
Xylenes (total)	1.3 J	-

0 40 80ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- 10U/10U — DUPLICATE SAMPLE RESULTS
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (ug/L)
Aroclor-1260 (PCB-1260)	0.034
2-Methylnaphthalene	2.7
Biphenyl (1,1-Biphenyl)	0.083
Dibenzofuran	0.58
Naphthalene	0.14
1,1-Dichloroethane	2.4
1,2-Dichloroethane	0.15
1,4-Dichlorobenzene	0.42
2-Hexanone	3.4
Benzene	0.39
Carbon tetrachloride	0.39
Chloroform (Trichloromethane)	0.19
cis-1,2-Dichloroethene	2.8
Ethylbenzene	1.3
Isopropyl benzene	39
Tetrachloroethene	1
Toluene	86
Trichloroethene	0.26
Xylenes (total)	19

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

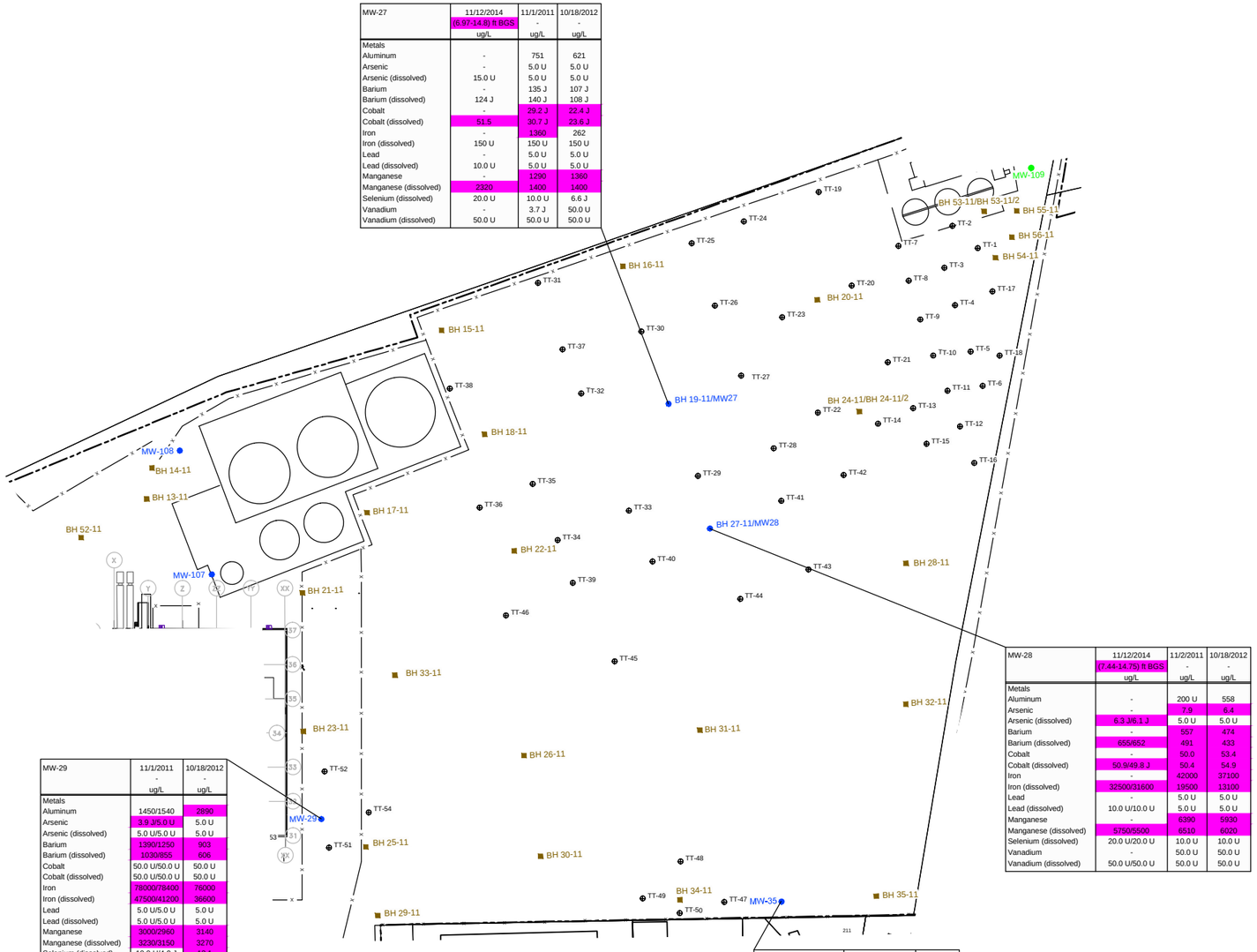
OU-5 GROUNDWATER NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project No.: 17338-T04	Report No.: 020	Drawing No.: 4.16

17338-00(020)GN-BU030 MAR 10/2015



MW-27	11/12/2014 (6.97-14.8) ft BGS ug/L	11/1/2011 - ug/L	10/18/2012 - ug/L
Metals			
Aluminum	-	751	621
Arsenic	-	5.0 U	5.0 U
Arsenic (dissolved)	15.0 U	5.0 U	5.0 U
Barium	-	135 J	107 J
Barium (dissolved)	124 J	140 J	108 J
Cobalt	-	29.2 J	22.4 J
Cobalt (dissolved)	51.5	30.7 J	23.6 J
Iron	-	1360	262
Iron (dissolved)	150 U	150 U	150 U
Lead	-	5.0 U	5.0 U
Lead (dissolved)	10.0 U	5.0 U	5.0 U
Manganese	-	1290	1360
Manganese (dissolved)	2320	1400	1400
Selenium (dissolved)	20.0 U	10.0 U	6.6 J
Vanadium	-	3.7 J	50.0 U
Vanadium (dissolved)	50.0 U	50.0 U	50.0 U

MW-28	11/12/2014 (7.44-14.75) ft BGS ug/L	11/2/2011 - ug/L	10/18/2012 - ug/L
Metals			
Aluminum	-	200 U	558
Arsenic	-	7.9	6.4
Arsenic (dissolved)	6.3 J/6.1 J	5.0 U	5.0 U
Barium	-	557	474
Barium (dissolved)	655/652	491	433
Cobalt	-	50.0	53.4
Cobalt (dissolved)	50.9/49.8 J	50.4	54.9
Iron	-	42000	37100
Iron (dissolved)	32500/31600	19500	13100
Lead	-	5.0 U	5.0 U
Lead (dissolved)	10.0 U/10.0 U	5.0 U	5.0 U
Manganese	-	6390	5930
Manganese (dissolved)	5750/5500	6510	6020
Selenium (dissolved)	20.0 U/20.0 U	10.0 U	10.0 U
Vanadium	-	50.0 U	50.0 U
Vanadium (dissolved)	50.0 U/50.0 U	50.0 U	50.0 U

MW-29	11/1/2011 - ug/L	10/18/2012 - ug/L
Metals		
Aluminum	1450/1540	2890
Arsenic	3.9 J/5.0 U	5.0 U
Arsenic (dissolved)	5.0 U/5.0 U	5.0 U
Barium	1390/1250	903
Barium (dissolved)	1030/855	606
Cobalt	50.0 U/50.0 U	50.0 U
Cobalt (dissolved)	50.0 U/50.0 U	50.0 U
Iron	78000/78400	76000
Iron (dissolved)	47600/41200	36600
Lead	5.0 U/5.0 U	5.0 U
Lead (dissolved)	5.0 U/5.0 U	5.0 U
Manganese	3000/2960	3140
Manganese (dissolved)	3230/3150	3270
Selenium (dissolved)	10.0 U/4.9 J	13.1
Vanadium	8.1 J/8.1 J	8.8 J
Vanadium (dissolved)	50.0 U/50.0 U	50.0 U

MW-35	11/12/2014 (7.39-17.98) ft BGS ug/L	10/18/2012 - ug/L
Metals		
Aluminum	-	321
Arsenic	-	5.0 U
Arsenic (dissolved)	15.0 U	5.0 U
Barium	-	286
Barium (dissolved)	154 J	201
Cobalt	-	50.0 U
Cobalt (dissolved)	50.0 U	50.0 U
Iron	-	337
Iron (dissolved)	150 U	150 U
Lead	-	5.0 U
Lead (dissolved)	10.0 U	5.0 U
Manganese	-	101
Manganese (dissolved)	15.0 U	105
Selenium (dissolved)	20.0 U	6.6 J
Vanadium	-	50.0 U
Vanadium (dissolved)	50.0 U	50.0 U

0 40 80ft

LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY
- MW 24-11 — MONITORING WELL
- BH 54-11 — BOREHOLE
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- 10U/10U — DUPLICATE SAMPLE RESULTS
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	*DNREC SIRS Screening Level (2014) (ug/L)*
Aluminum	1600
Arsenic	0.045
Arsenic (dissolved)	0.045
Barium	290
Barium (dissolved)	290
Cobalt	0.47
Cobalt (dissolved)	0.47
Iron	1100
Iron (dissolved)	1100
Lead	5
Lead (dissolved)	5
Manganese	32
Manganese (dissolved)	32
Selenium (dissolved)	7.8
Vanadium	6.3
Vanadium (dissolved)	6.3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

OU-5 GROUNDWATER METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=80'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.17

17338-00(020)GN-BU031 MAR 10/2015

DA-MW44	3/26/2013 - ug/L	6/27/2013 - ug/L	9/17/2013 - ug/L
SVOC			
2-Methylnaphthalene	11 U	10 U	10 U
Naphthalene	11 U	10 U	10 U
VOC			
1,2,4-Trimethylbenzene	1.0 U	1.0 U	1.0 U
Benzene	0.97 J	1.0 U	1.0 U
Chloroform (Trichloromethane)	0.40 J	0.25 J	0.15 J
Ethylbenzene	1.0 U	1.0 U	1.0 U
Isopropyl benzene	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	1.0 U	1.0 U	1.0 U
Toluene	1.0 U	1.0 U	1.0 U
Xylenes (total)	3.0 U	3.0 U	3.0 U

DA-MW46	6/27/2013 - ug/L	9/17/2013 - ug/L
SVOC		
2-Methylnaphthalene	10 U	10 U
Naphthalene	10 U	10 U
VOC		
1,2,4-Trimethylbenzene	1.0 U	1.0 U
Benzene	1.0 U	1.0 U
Chloroform (Trichloromethane)	0.26 J	1.0 U
Ethylbenzene	1.0 U	1.0 U
Isopropyl benzene	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	12	4.4
Toluene	1.0 U	1.0 U
Xylenes (total)	3.0 U	3.0 U

DA-MW47	6/27/2013 - ug/L	9/17/2013 - ug/L
SVOC		
2-Methylnaphthalene	10 U	10 U
Naphthalene	10 U	10 U
VOC		
1,2,4-Trimethylbenzene	1.0 U	1.0 U
Benzene	1.2	6.4
Chloroform (Trichloromethane)	1.0 U	1.0 U
Ethylbenzene	1.0 U	1.0 U
Isopropyl benzene	1.0 U	0.23 J
Methyl tert butyl ether (MTBE)	1.0 U	1.0 U
Toluene	1.0 U	1.0 U
Xylenes (total)	3.0 U	0.15 J

DA-MW43	3/26/2013 - ug/L	6/27/2013 - ug/L	9/17/2013 - ug/L
SVOC			
2-Methylnaphthalene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
VOC			
1,2,4-Trimethylbenzene	1.0 U	1.0 U	1.0 U
Benzene	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U	1.0 U	0.23 J
Ethylbenzene	1.0 U	1.0 U	1.0 U
Isopropyl benzene	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	0.21 J	1.0 U	0.86 J
Toluene	1.0 U	1.0 U	1.0 U
Xylenes (total)	3.0 U	3.0 U	3.0 U

MW-41	10/22/2012 - ug/L	6/28/2013 - ug/L	9/18/2013 - ug/L
SVOC			
2-Methylnaphthalene	11/7.6 J	10 U	10 U
Naphthalene	150/120	26	10 U
VOC			
1,2,4-Trimethylbenzene	-	1.0 U	1.0 U
Benzene	2.0 U/2.0 U/1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	2.0 U/2.0 U/1.0 U	1.0 U	1.0 U
Ethylbenzene	520/580/1.0 U	1.9	0.63 J
Isopropyl benzene	31/34/1.0 U	0.52 J	0.24 J
Methyl tert butyl ether (MTBE)	2.0 U/2.0 U/1.0 U	1.0 U	1.0 U
Toluene	240/260/1.0 U	1.7	0.55 J
Xylenes (total)	270/300/3.0 U	3.0 U	3.0 U

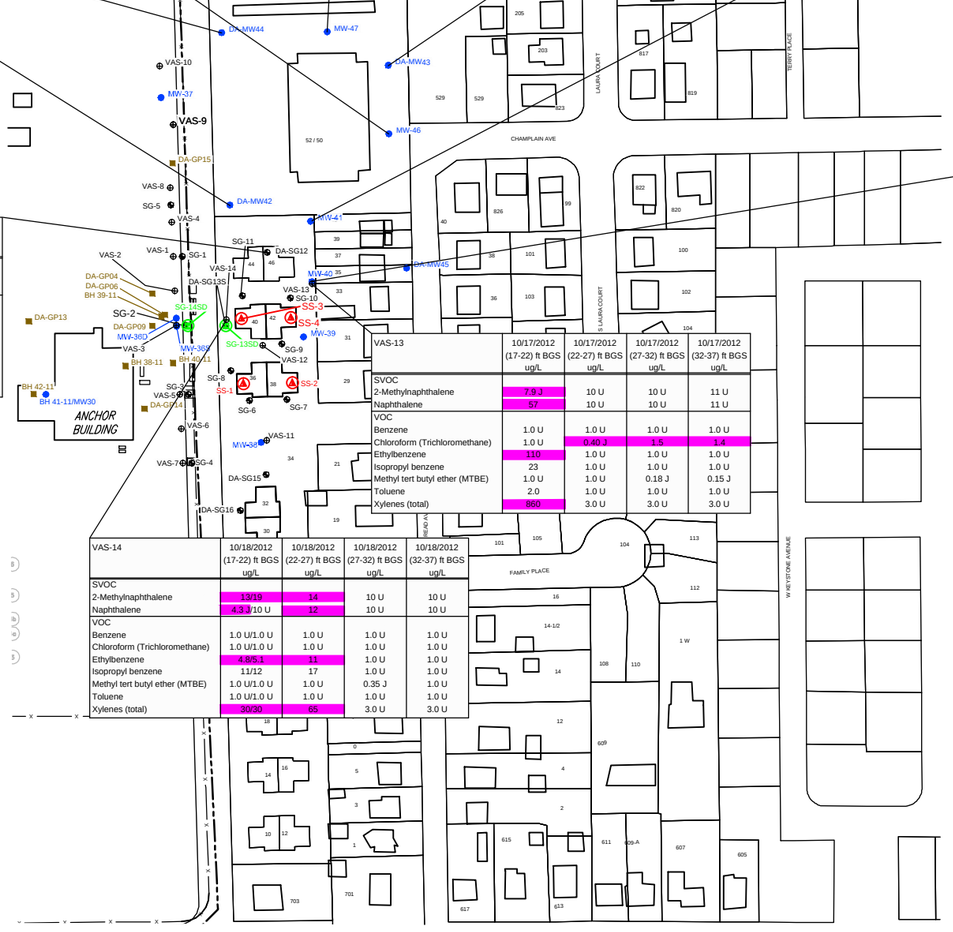
DA-MW42	3/26/2013 - ug/L	6/28/2013 - ug/L	9/18/2013 - ug/L
SVOC			
2-Methylnaphthalene	22/21	20/21	28/29
Naphthalene	170/160	170/170	210/220
VOC			
1,2,4-Trimethylbenzene	730/480	570/580	750/790
Benzene	5.0 U/5.0	0.91 J/0.79 J	2.0 U/5.0 U
Chloroform (Trichloromethane)	5.0 U/1.0 U	2.0 U/2.0 U	2.0 U/5.0 U
Ethylbenzene	750/660	490/480	510/500
Isopropyl benzene	39/34	33/33	36/34
Methyl tert butyl ether (MTBE)	5.0 U/1.0 U	2.0 U/2.0 U	2.0 U/5.0 U
Toluene	330/320	220/220	210/200
Xylenes (total)	1300/1100	920/910	1300/1300

MW-40	10/22/2012 - ug/L	6/28/2013 - ug/L	9/18/2013 - ug/L
SVOC			
2-Methylnaphthalene	18	10 U	10 U
Naphthalene	82	10 U	10 U
VOC			
1,2,4-Trimethylbenzene	-	1.0 U	1.0 U
Benzene	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U	2.7	1.6
Ethylbenzene	140	1.0 U	1.0 U
Isopropyl benzene	20	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	1.0 U	1.0 U	1.0 U
Toluene	2.1	1.0 U	1.0 U
Xylenes (total)	660	3.0 U	3.0 U

VAS-12	10/17/2012 (18-23) ft BGS ug/L	10/17/2012 (23-28) ft BGS ug/L	10/17/2012 (28-33) ft BGS ug/L	10/17/2012 (33-38) ft BGS ug/L
SVOC				
2-Methylnaphthalene	15	11 U	10 U	10 U
Naphthalene	3.0 J	11 U	10 U	10 U
VOC				
Benzene	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	0.99 J	0.15 J	1.0 U	1.0 U
Isopropyl benzene	11	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	1.0 U	0.61 J	0.62 J	0.33 J
Toluene	0.52 J	0.36 J	0.29 J	0.20 J
Xylenes (total)	8.6	0.90 J	0.46 J	3.0 U

VAS-13	10/17/2012 (17-22) ft BGS ug/L	10/17/2012 (22-27) ft BGS ug/L	10/17/2012 (27-32) ft BGS ug/L	10/17/2012 (32-37) ft BGS ug/L
SVOC				
2-Methylnaphthalene	7.9 J	10 U	10 U	11 U
Naphthalene	57	10 U	10 U	11 U
VOC				
Benzene	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U	0.40 J	1.5	1.4
Ethylbenzene	110	1.0 U	1.0 U	1.0 U
Isopropyl benzene	23	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	1.0 U	1.0 U	0.18 J	0.15 J
Toluene	2.0	1.0 U	1.0 U	1.0 U
Xylenes (total)	860	3.0 U	3.0 U	3.0 U

VAS-14	10/18/2012 (17-22) ft BGS ug/L	10/18/2012 (22-27) ft BGS ug/L	10/18/2012 (27-32) ft BGS ug/L	10/18/2012 (32-37) ft BGS ug/L
SVOC				
2-Methylnaphthalene	13/19	14	10 U	10 U
Naphthalene	4.3 J/10 U	12	10 U	10 U
VOC				
Benzene	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	4.8/5.1	11	1.0 U	1.0 U
Isopropyl benzene	11/12	17	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	1.0 U/1.0 U	1.0 U	0.35 J	1.0 U
Toluene	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	30/30	65	3.0 U	3.0 U



LEGEND

- APPROXIMATE FACILITY BOUNDARY
- FENCELINE
- RAILWAY/SOIL SAMPLE LOCATION
- MW 24-11 — MONITORING WELL
- SG-5 — SOIL GAS SAMPLE LOCATION
- BH 54-11 — BOREHOLE
- A — INDOOR AIR AND SUB SLAB SAMPLE LOCATION
- NESTED SOIL GAS SAMPLE LOCATION (ONE AT 6' DEEP & ONE ABOVE WATER TABLE)
- SEDIMENT SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATIONS
- SURFACE WATER SAMPLE LOCATION
- TEST TRACK METALS DELINEATION SAMPLE
- BH 25-11 — LOCATION SAMPLED FOR COPC PARAMETER LIST(SCREENING OR LAB ARIALYSIS)- NO EXCEDANCE
- INDICATES EXCEEDANCE OF CRITERIA

PARAMETER	DNREC SIRS Screening Level (2014) (ug/L)
2-Methylnaphthalene	2.7
Naphthalene	0.14
1,2,4-Trimethylbenzene	1.5
Benzene	0.39
Chloroform (Trichloromethane)	0.19
Ethylbenzene	1.3
Isopropyl benzene	39
Methyl tert butyl ether (MTBE)	10
Toluene	86
Xylenes (total)	19

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER WILMINGTON ASSEMBLY PLANT

REMEDIAL INVESTIGATION REPORT

OFF-SITE GROUNDWATER NON-METAL COPCS EXCEEDING SCREENING CRITERIA

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
G. CARLI	REVIEWED_BY	MARCH 2015	
Scale: 1"=100'	Project N°: 17338-T04	Report N°: 020	Drawing N°: 4.18

17338-00(020)GN-BU034 MAR 10/2015

Tables

TABLE 1.1

CHRONOLOGY OF MAJOR ENVIRONMENTAL INVESTIGATIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Environmental Investigation*	*Conducted by*	*Source*
1990	Anchor Building UST closures (AOI-9)	I.D. Griffith	Letter from – W Kryak of GM to Mr. J. Barndt of DNREC
1990	Group 3 UST (GMI) closure activities (AOI-2)	I.D. Griffith	November 28, 1990 letter from DNREC to GM for UST GM1
1990	Group 5 UST (WI) closure activities (AOI-2)	I.D. Griffith	November 28, 1990 letter from DNREC to GM for UST GM1
July, 1990	ELPO waste transfer line release investigation (AOI-12)	Facility Personnel	September 19, 1990 Spill Report
1992	Focused dye tracer test of Facility's sanitary and storm sewer networks (AOI-13)	Clean Tech	Clean Tech, 1992
1994	Wastewater pipeline investigation at the Grit Separator Building (AOI-8)	Facility Personnel	Letter from Mr. Jeffery Holmes of GM to Mr. Berlin of DNREC
1996	Wastewater pipeline investigation at the phosphate area (AOI-7)	Facility Personnel	Letter from Mr. Jeffery Holmes of GM to Mr. Norris of DNREC
1997	Soil investigation in the area of Hydraulic List Station (column N4) (AOI-12)	Clean Tech	Limited Site Investigation of the Hydraulic Lift Station in the Area of Column N4 (November 1997)

TABLE 1.1

CHRONOLOGY OF MAJOR ENVIRONMENTAL INVESTIGATIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Environmental Investigation*	*Conducted by*	*Source*
1997	Soil investigation in the vicinity of Basic Paint Department (AOI-11)	Clean Tech	Limited Site Investigation of the Petroleum Impacted Soil Adjacent to the Basic Paint Department
1998	Soil and groundwater investigation at bulk product tank farm (AOI-1)	Enecotech Midwest	Environmental Assessment Report – Large AST Area (October, 1998)
1998	Soil and groundwater investigation at AST containment/ truck unloading area (AOI-1)	Enecotech Midwest	AST Containment/Truck Unloading Rack (October, 1998)
2002	Focused soil investigations related to Tank L (AOI-1)	CRA	Report of Findings – Soil Sampling Program at Tank L Product Release Area, (March 2002)
2002	Soil investigation related to convault area (AOI-1)	CRA	Report of Findings - OU-1 Soils Bulk Product Tank Areas (January 2004)
2003	Soil investigation following a diesel fuel release at the Pump House (AOI-1)	CRA	Report of Findings - OU-1 Soils Bulk Product Tank Areas (January 2004)
2005	Soil and groundwater confirmation investigation at bulk product tank farm (AOI-1/AOI-10)	CRA	Report of Findings OU-2 Bulk Product Tank Area Soil Investigation (February 2006)

TABLE 1.1

CHRONOLOGY OF MAJOR ENVIRONMENTAL INVESTIGATIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Environmental Investigation*	*Conducted by*	*Source*	
2006	Groundwater investigation downgradient of bulk product tank farm (AOI-10)	CRA	Groundwater Remedial Investigation and Feasibility Study Report - OU-2 Bulk Product Tank Area (January 2009)	
2008-2010	Focused groundwater investigation at bulk product tank farm (AOI-10)	CRA	Groundwater Remedial Investigation and Feasibility Study Report - OU-2 Bulk Product Tank Area (January 2009)	
2009	Soil and groundwater investigation for tank closure (Tanks A, B, C, and F) (AOI-1)	CRA	AST Closure Document, Four Aboveground Storage Tanks (August 2009)	
2010	Tank F Investigation (AOI-1)	CRA	Tank F Investigation Report, Former GM Wilmington Assembly Plant (CRA, 2010)	
2010	Environmental Baseline Investigation (Site Wide)	Brightfields, Inc.	Environmental Baseline Investigation Report, Former General Motors Corporation, Wilmington Assembly Plant (Fisker Automotive) (Brightfields, 2010)	Multiple

Notes:

CRA- Conestoga--Rovers and Associates
GM – General Motors Corporation
AST – Aboveground Storage Tank
UST – Underground Storage Tank
AOI – Area of Interest

TABLE 1.2

CHRONOLOGY OF ENVIRONMENTAL ACTIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Remedial Action*	*Conducted by*	*Source*
1950s- 1960s	Remediation of the former open waste storage area east of current Tire Building	Unknown	Former Facility personnel
1975	In-place closure of diesel oil UST by the Power House	Facility Personnel	GM, 1995. Liability Assessment Report - LAD Division, GM Wilmington Assembly Plant
December 1980	Applied for RCRA Hazardous Waste Permit Part A	Facility Personnel	Letter from Mr. E. Bosetti to DNREC Mr. P. Retallick dated March 8, 1991
September 1982	Applied for RCRA Hazardous Waste Permit Part B	Facility Personnel	Letter from Mr. E. Bosetti to DNREC Mr. P. Retallick dated March 8, 1991
April, 1989	Filed permit application withdrawal of Part A and B under the protective filing status of Federal Register Section 3005(e)(2) of RCRA	Facility Personnel	Letter from Mr. E. Bosetti to DNREC Mr. P. Retallick dated March 8, 1991
October 1992	RCRA Facility Assessment Terminated	Facility Personnel	Letter from DNREC Ms. N. Marker to GM Mr. S. Meager dated October 9, 1992
1989-1990	Anchor Building UST Removals	I.D. Griffith Inc.	Underground Storage Tank Removal Project (November, 1989)
March 1990	Group 3 and 5 USTs Removals	I.D. Griffith Inc.	Underground Storage Tank Removal Project (November, 1989)
1997	Anchor Building AST Removal	Continental Vanguard	Continental Vanguard former personnel (Mr. Tawn Franz)
July 1990	July 23, 1990 wastewater release	Clean Tech	September 19, 1990 Spill Report

TABLE 1.2

CHRONOLOGY OF ENVIRONMENTAL ACTIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Remedial Action*	*Conducted by*	*Source*
July 1991	July 1, 1991, sanitary effluent release	Clean Tech	Letter from Ms. Buniski of Clean Tech to Mr. G. McKee of GM dated July 9, 2009
March 16, 1993	Diesel fuel release	Clean Tech	Clean Tech, 1992
March 19, 1993	Sulfuric acid spill from Sulfuric Acid Tank (AST V)	Facility Personnel	Letter from Mr. J. Holmes of GM to Mr. C. Cleaver of DNREC dated March 24, 1993
July 13, 1994	Wastewater release to lift station at DD28	Facility Personnel	Spill/release form dated July 13, 1994
December 4, 1994	Grit Separator Building wastewater release	Facility Personnel	Letter from Mr. J. Holmes of GM to Mr. C. Berlin of DNREC dated December 14, 1994
April 19, 1996	Wastewater pipeline release at the phosphate area	Facility Personnel	Letter from Mr. J. Holmes of GM to Mr. R. Norris of DNREC dated April 24, 1994
June 30, 1996	Diesel oil AST release in vicinity of Pump House No. 2	Facility Personnel	Letter from Mr. J. Holmes of GM to Mr. J. Mulrooney of DNREC dated July 5, 1996
1997	Hydraulic lift station investigation	Clean Tech	Limited Site investigation of the Hydraulic Lift Station in the Area of Column N4 (November 1997)
October 1998	East Lot waste investigation	Facility Personnel	Discovery of Previously Undisclosed Material in East Lot Memorandum October 28, 1998

TABLE 1.2

CHRONOLOGY OF ENVIRONMENTAL ACTIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	***Remedial Action***	***Conducted by***	***Source***
March 30, 2001	Fire fighting foam release to storm sewer	Facility Personnel	Letter from Mr. J. Holmes of GM to Mr. J. Mulrooney of DNREC dated April 3, 2001
January 11, 2002	Power steering fluid release from Tank L	CRA	Report of Findings - OU-1 Soils Bulk Product Tank Areas (January 2004)
July 15, 2003	Diesel fuel release	Facility Personnel/Talley Brothers, Inc.	GM Environmental Spill/Release Tracking Form dated July 15, 2003
2003	Remediation of impacted soils due to 2002 power steering release in the vicinity of Tank L at OU-1 Area	CRA/Talley Brothers, Inc.	Report of Findings OU-1 Soils Bulk Product Tank Areas, GM Wilmington Assembly Plant (January, 2004)
February 7, 2006	Purge solvent release at Modular Paint Building	Facility Personnel	GM Environmental Spill/Release Tracking Form dated July 2, 2006
February 12, 2007	VOCs release to atmosphere	Facility Personnel	Release ID 12484, dated February 12, 2007
July 23, 2007	VOCs release to atmosphere	Facility Personnel	Release ID 12728, dated July 23, 2007
March 20, 2008	Diesel fuel release in the freight parking lot	Facility Personnel	Letter from Mr. J. Holmes of GM to DNREC/DAWM Central Respiratory dated March 20, 2008
June 2008	VOC release to atmosphere	Facility Personnel	Release ID 13130, dated June 10, 2008

TABLE 1.2

CHRONOLOGY OF ENVIRONMENTAL ACTIONS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Date	*Remedial Action*	*Conducted by*	*Source*
June 2008	Refrigerant gas release to atmosphere	Facility Personnel	Release ID 13128, dated June 10, 2008
June 25, 2008	Oil release into catch basin in vicinity of Weld Water Building	Facility Personnel	GM Environmental Spill/Release Tracking Form dated June 25, 2008
2008	AST closure investigation (ASTs A, B, and received closure	CRA	AST Closure Document, Four Aboveground Storage Tanks (August 2009)
January 2008	VOCs release to atmosphere due to problems with a damper timer	Facility Personnel	Release ID 12951, dated January 28, 2008
Unknown	In-place closure of OU-2 USTs	Unknown	Facility personnel
Unknown	In-place closure of Kolene Tank	Unknown	Facility personnel
Unknown	Closure and removal of Solvent-Borne dip tank	Unknown	Facility personnel

Notes:

CRA- Conestoga-Rovers and Associates
GM – General Motors Corporation
AST – Aboveground Storage Tank
UST – Underground Storage Tank
DNREC – Delaware department of Natural Resource and Environmental Control

TABLE 1.3

LIST OF AREAS OF INTEREST (AOIs)
REMEDIAL INVESTIGATION WORK PLAN
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

AOI Number	*Investigated During RI*	*Operable Unit (OU)*	*Investigation Area Description* [1]
AOI 18	Yes	OU2	OU-2 Area
AOI 1	Yes	OU3	No. 6 Fuel Oil (AST F)
AOI 2	No	OU3	No. 6 Fuel Oil (AST G)
AOI 3	No	OU3	Waste Solvent ASTs (ASTs P-Q)
AOI 4	Yes	OU3	Kolene AST
AOI 5	Yes	OU3	Diesel Oil UST by Powerhouse
AOI 6	Yes [2]	OU3	Modular Paint Pits and Mixing Area Sumps/ East of Mod Paint Building
AOI 7	Yes	OU3	Acetylene Sludge Pits
AOI 8	No	OU3	WWTP Sump
AOI 9	Yes	OU3	Hydraulic Lift
AOI 10	Yes [2]	OU3	Old Hazardous Waste Accumulation Area (Former Tank Storage Area)
AOI 11	No	OU3	New Hazardous Waste Accumulation Area
AOI 13	Yes	OU3	ELPO Areas
AOI 14	Yes	OU3	Phosphate Area
AOI 15	No	OU3	Grit Separator Building
AOI 19	Yes	OU3	Lift Stations (to WWTP)
AOI 20	Yes	OU3	PCB Containing Equipment/Oil Stained Surfaces
AOI 21	Yes	OU3	Railroad Tracks
AOI 22	No	OU3	Oil Stained Gravel
AOI 24	No	OU3	Solvent ASTs
AOI 25	No	OU3	Former Open Ditch
Additional Area	Yes	OU3	Parking Lot Area
Additional Area	Yes	OU3	USTs D, F, G, and H
AOI 16	Yes [2]	OU4	Petroleum Dispensing Area
AOI 17	Yes	OU4	Former Petroleum Dispensing Area
AOI 12	Yes [2]	OU5	Test Track Waste Storage Area
AOI 23	Yes [2]	OU5	Group 3 UST
AOI 26	Yes [2]	OU6 [3]	Outfall 001
Additional Area	Yes	OU6 [3]	Outfall 001 Swale

[1] "Areas of Interest (AOIs)" have been identified as those areas being investigated by Fisker as part of their Baseline Investigation and/or areas requiring investigation in accordance with DNREC's Investigation and Remediation Cost Estimate dated April 2010, and/or areas identified as REC's in the February 2010 Phase I ESA prepared by CRA.

[2] AOIs included in Supplemental RI invesitgation activities.

[3] OU6 includes wooded area west of the main former manufacturing plant property.

TABLE 2.1

GROUNDWATER ELEVATIONS
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

		Sept 26/ Nov 16 2012		***May 2013***		***June 2013***		***September 20, 2013***		***September 26, 2013***	
Monitoring Well ID	***Ref Point Elevation (AMSL)***	***Measured Depth (feet)****	***Groundwater Elevation (feet AMSL)***	***Measured Depth (feet)****	***Groundwater Elevation (feet AMSL)***	***Measured Depth (feet)****	***Groundwater Elevation (feet AMSL)***	***Measured Depth (feet)****	***Groundwater Elevation (feet AMSL)***	***Measured Depth (feet)****	***Groundwater Elevation (feet AMSL)***
MW-2	77.2	11.7	65.6	11.8	65.4	11.4	65.8	11.4	65.8	11.7	65.6
MW-3	77.53	NM	--	11.7	65.8	11.3	66.3	NM	--	NM	--
MW-3D	77.68	12.2	65.5	12.4	65.3	12.1	65.6	12.2	65.5	12.2	65.5
MW-4	(1)	--	--	--	--	--	--	--	--	--	--
MW-5	(1)	--	--	--	--	--	--	--	--	--	--
MW-6	77.89	12.3	65.6	12.6	65.3	12.1	65.8	12.2	65.7	12.3	65.6
MW-7	78.07	13.0	65.1	13.3	64.7	12.8	65.2	12.7	65.4	13.0	65.1
MW-8	77.53	12.7	64.9	12.9	64.6	12.4	65.1	12.6	65.0	12.7	64.9
MW-9	74.9	10.7	64.2	10.8	64.1	10.7	64.3	10.3	64.6	10.7	64.2
MW-10	78.31	11.7	66.7	11.9	66.5	11.4	66.9	11.5	66.8	11.7	66.7
MW-11	77.77	12.3	65.5	12.6	65.2	12.2	65.6	12.2	65.5	12.3	65.5
MW-11R	77.3	12.6	64.8	12.6	64.7	12.5	64.8	12.6	64.7	12.6	64.8
MW-12	76.91	12.1	64.8	12.4	64.5	12.0	65.0	11.8	65.1	12.1	64.8
MW-13	77.89	12.7	65.2	12.9	65.0	12.4	65.5	12.5	65.4	12.7	65.2
MW-14	79.35	15.9	63.4	15.9	63.4	16.1	63.3	15.9	63.5	15.9	63.4
MW-15	78.45	13.5	65.0	13.5	65.0	13.2	65.2	13.4	65.1	13.5	65.0
MW-16	77.6	11.9	65.7	12.1	65.5	11.7	65.9	11.8	65.8	11.9	65.7
MW-17	78.45	12.7	65.7	13.0	65.5	12.6	65.9	12.7	65.8	12.7	65.7
MW-18	78.58	13.2	65.4	13.5	65.1	13.0	65.6	13.1	65.5	13.2	65.4
MW-19	78.45	14.3	64.1	14.5	63.9	14.3	64.2	14.4	64.1	14.3	64.1
MW-20	78.37	14.4	64.0	14.5	63.8	14.2	64.1	14.3	64.1	14.4	64.0
MW-21	78.67	14.3	64.4	14.7	64.0	14.2	64.5	14.2	64.5	14.3	64.4
MW-22	78.19	13.8	64.4	9.8	68.4	8.8	69.4	13.2	65.0	13.3	64.9
MW-23	77.94	9.9	68.0	10.6	67.4	8.3	69.6	10.6	67.4	10.6	67.3
MW-24	74.35	6.0	68.4	6.1	68.3	6.0	68.4	6.0	68.4	5.8	68.6
MW-25	74.02	5.8	68.2	5.7	68.3	5.3	68.7	5.5	68.6	5.6	68.4
MW-26	74.9	6.9	68.0	7.0	67.9	6.9	68.0	6.4	68.5	6.6	68.3
MW-27	70.98	7.2	63.8	7.0	64.0	6.9	64.1	7.0	64.0	7.2	63.8
MW-28	72.07	8.6	63.5	8.2	63.9	7.8	64.3	8.6	63.5	8.6	63.4
MW-29	75.12	10.0	65.2	9.5	65.6	8.9	66.2	10.4	64.8	9.9	65.2
MW-30	82.14	17.8	64.4	17.2	65.0	16.6	65.6	17.4	64.7	17.4	64.7
MW-31	80.61	15.5	65.2	15.0	65.6	14.6	66.0	15.2	65.4	15.2	65.4
MW-32	82.67	18.9	63.8	18.7	64.0	17.8	64.9	19.5	63.2	18.7	63.9
MW-33	83.196	11.7	71.5	11.0	72.2	10.0	73.2	15.2	68.0	15.2	68.0
MW-34	83.96	12.5	71.5	12.1	71.9	9.5	74.4	13.8	70.2	13.8	70.2
MW-35	71.631	8.2	63.5	7.6	64.0	6.8	64.9	8.3	63.3	8.4	63.2
MW-36D	80.752	17.4	63.4	16.8	63.9	16.1	64.7	17.3	63.5	17.3	63.4
MW-36S	80.823	16.5	64.3	15.9	64.9	15.0	65.9	16.3	64.5	16.4	64.4

TABLE 2.1

GROUNDWATER ELEVATIONS
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

		Sept 26/ Nov 16 2012		May 2013		June 2013		September 20, 2013		September 26, 2013	
Monitoring Well ID	*Ref Point Elevation (AMSL)*	*Measured Depth (feet)**	*Groundwater Elevation (feet AMSL)*	*Measured Depth (feet)**	*Groundwater Elevation (feet AMSL)*	*Measured Depth (feet)**	*Groundwater Elevation (feet AMSL)*	*Measured Depth (feet)**	*Groundwater Elevation (feet AMSL)*	*Measured Depth (feet)**	*Groundwater Elevation (feet AMSL)*
MW-37	78.03	13.9	64.1	13.3	64.8	12.4	65.7	NM	--	NM	--
MW-38 (off-Site)	82.47	16.3	66.2	16.1	66.4	14.5	68.0	NM	--	NM	--
MW-39 (off-Site)	81.97	17.5	64.5	16.9	65.1	15.5	66.5	NM	--	NM	--
MW-40 (off-Site)	79.46	15.3	64.2	14.7	64.8	13.5	66.0	NM	--	NM	--
MW-41 (off-Site)	78.24	14.2	64.0	13.6	64.6	12.5	65.7	NM	--	NM	--
MW-42 (off-Site)	79.51	Not Installed	Not Installed	14.8	64.7	13.8	65.7	NM	--	NM	--
MW-43 (off-Site)	78.34	Not Installed	Not Installed	13.9	64.4	12.9	65.5	NM	--	NM	--
MW-44 (off-Site)	77.59	Not Installed	Not Installed	13.0	64.6	12.0	65.6	NM	--	NM	--
MW-45R (off-Site)	79.57	Not Installed	Not Installed	15.3	64.3	14.1	65.5	NM	--	NM	--
MW-46	78.5	Not Installed	Not Installed	Not Installed	Not Installed	13.0	65.5	NM	--	NM	--
MW-47	78.38	Not Installed	Not Installed	Not Installed	Not Installed	12.8	65.5	NM	--	NM	--
MW-100	79.56	16.3	63.2	16.2	63.4	15.5	64.1	NM	--	16.0	63.5
MW-101	78.02	12.7	65.3	12.5	65.5	12.3	65.7	NM	--	12.5	65.5
MW-102	74.89	6.9	68.0	6.6	68.3	6.2	68.7	NM	--	6.9	68.0
MW-103	74.99	7.0	68.0	6.9	68.1	6.4	68.6	NM	--	6.8	68.2
MW-104	74.37	6.2	68.2	6.1	68.3	5.6	68.8	NM	--	6.0	68.4
MW-105	74.35	6.1	68.3	6.2	68.1	6.0	68.3	NM	--	5.1	69.3
MW-106	74.99	9.0	66.0	8.8	66.2	8.2	66.8	NM	--	8.7	66.3
MW-107	73.84	8.8	65.0	8.4	65.5	7.9	65.9	NM	--	8.6	65.3
MW-108	71.61	6.1	65.5	5.9	65.7	5.4	66.2	NM	--	NM	--
MW-109	70.04	10.3	59.8	10.3	59.8	9.9	60.1	NM	--	10.1	59.9
MW-110	81.98	17.7	64.3	17.5	64.4	17.2	64.8	NM	--	17.6	64.4
MW-111	78.99	14.5	64.5	14.0	65.0	13.4	65.6	NM	--	14.2	64.8

Notes:

MW-100 through MW-111 are on-Site brightfields wells. MW-38 through MW-47 are Brightfields off-Site wells.
(1) - Monitoring Well can not be located on site.
NM - Not Measured
* - Feet below reference point elevation
AMSL - Above Mean Seal Level

TABLE 2.2

NEARBY WATER WATER WELL DETAILS
REMEDIAL INVESTIGATION REPORT
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Modified Grid No.	*Permit Number*	*Well Use*	*Local ID*	*Desired Capacity*	*Screen Bottom*	*Screen Top*	*Address*	*City*	*Casing Diameter (inches)*	*Daily Use*	*Date Completed*	*Site Location Comments*
084-356	194922	1	ORC-1*ORC-10	-	-	-	Blue Ball & Post Rd	Marcus Hook	-	-	-	3701 Kirkwood Hwy.
084-356	194923	1	ORC-11*ORC-16	-	-	-	Blue Ball & Post Rd	Marcus Hook	-	-	-	3701 Kirkwood Hwy.
086-356	50788	D	-	-	-	-	c/o Walton Corp	Newark	6	-	19820503	
086-358	99902	A	-	10	-	-	2311 Newport Gap Pike	Wilmington	6.2	1	19940614	
086-360	38893	D	Faulkland Rd	5	-	-	214 Waverley Rd	Wilmington	-	1	19770914	Faulkland Rd, Rd 270
086-360	40000	D	Rt 48	10	-	-	15 Hillside Rd	Wilmington	6	1	19771121	E of Cr 282 on the S side of Lancaster Rd (Rt 48)
086-360	182710	D	Fells	6	-	-	2325 Fells Lane	Wilmington	6	1	20020115	W/ Fells Ln. N/RT 34
092-350	180049	3	WP 101	25	15	5	Barley Mill Plaza Bldg 27	Wilmington	6	0.3	20010821	Corners of James and Water Sts, E of 141
092-350	180211	3	EW-102	25	15	5	Barley Mill Plaza Bldg 27	Wilmington	6	-	20010822	Corners of James and Water Sts, E of 141
092-350	180212	3	WP-103	25	15	5	Barley Mill Plaza Bldg 27	Wilmington	6	-	20010821	Corners of James and Water Sts, E of 141
092-350	180213	3	EW-104	25	15	5	Barley Mill Plaza Bldg 27	Wilmington	6	-	20010822	Corners of James and Water Sts, E of 141
092-350	180214	3	WP-105	25	15	5	Barley Mill Plaza Bldg 27	Wilmington	6	-	20010822	Corners of James and Water Sts, E of 141
098-352	197622	3	RW-2	1	18	3	403 Meco Drive	Wilmington	6	1.4	20040122	403-408 Meco Dr., Wayman Site
098-352	198070	3	RW-4		20	5	406 Meco Drive	Wilmington	6	-	20040120	406 Meco Dr
098-352	198150	3	RW-3	1	18	3	403 Meco Drive	Wilmington	6	1.4	20040122	403-408 Meco Dr., Wayman Site
098-352	198187	3	RW-5		19	4	406 Meco Drive	Wilmington	6	-	20040120	406 Meco Dr
098-352	198188	3	RW-6	1	18	3	404 Meco Drive	Wilmington	6	1	20040121	404 Meco Dr, Wilmington

NOTES:

Well Use: A - Agriculture
C - Miscellaneous Public
D - Domestic
P - Public
S - SB 126 - Agricultural in CPCN

- information not recorded in TEPP

CPCN - Certification of Convenience and Necessity

TEPP - Technology Enabled Permitting Process

TABLE 3.1

SUMMARY OF REMEDIAL INVESTIGATION ACTIVITIES
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

AOI Number	*Investigation Area Description* [1]	*Rationale*	*No. of Boreholes*	*No. of Surface/Shallow Soil Samples*	*No. of Deep Subsurface Soil Samples*	*Soil Sample Locations*	*No. of New Monitoring Wells*	*No. of Groundwater Samples*	*Groundwater Sample Locations*	*No. of Soil Gas Samples*	*Soil Gas Sample Locations*	*No. of Sediment Samples*	*No. of Surface Water Samples*	*Sediment/Surface Water Sample Locations*	*Comments*	*Previous Investigation*
AOI 1	No. 6 Fuel Oil (AST F)	Installation of one monitoring well to confirm presence of SVOCs above URS at GP-12	0	0	0	-	1	1	MW22-11	0	-	0	0	-		Yes. Facility assessment for the closure of four ASTs (i.e., AST A, B, C, and F)
AOI 2	No. 6 Fuel Oil (AST G)	No evidence to suggest a release based on results of Fisker Environmental Baseline Investigation (EBI).	0	0	0	-	0	0	-	0	-	0	0	-		No
AOI 3	Waste Solvent ASTs (ASTs P-Q)	Confirm and delineate the metals exceedances identified by EBI at GP-103 installed to investigate this AOI. The presence of metals is likely not related to the solvent ASTs and will be investigated by CRA as part of AOI 6 the Mod Paint Pits and Sumps.	0	0	0		0	0	-	0	-	0	0	-		EBI
AOI 4	Kolene AST	Investigate possible impacts to subsurface due to former operation of and/or in place closure of the tank.	2	2	2	BH1-11 and BH2-11	0	0	-	0	-	0	0	-		No
AOI 5	Diesel Oil UST by Powerhouse	Evaluate impacts from historical release.	3	3	3	BH3-11 through BH5-11	1	1	MW23-11	0	-	0	0	-		No
AOI 6	Modular Paint Pits and Mixing Area Sumps/ East of Mod Paint Building	Groundwater infiltration was observed through joints in pits. Determine if there has been a release to soil and/or groundwater. Also to confirm and delineate the metals exceedances identified by Fisker Investigation at GP-103 installed to investigate AOI 3.	6	4	6	BH6-11 through BH8-11 and BH10-11 through BH11-11 and MW-32	1	3	BH10-11, BH11-11, and MW-32	0	-	0	0	-	BH6-11 through BH8-11 are associated with GP-103	GP-103 was part of EBI
AOI 6	Supplemental RI - Modular Paint Pits and Mixing Area Sumps/ East of Mod Paint Building	PCBs and PCE were detected in GW grab samples beneath Mod Paint Building.	0	0	0	-	0	5	MW-14, MW32-11, MW-100, MW-101, MW-110	0	-	0	0	-	Sampled existing wells MW-14, MW32-11, MW-100, MW-101, and MW-110 for VOCs and PCBs	No
AOI 7	Acetylene Sludge Pits	No information on construction and/or closure. Investigate possible impacts to subsurface due to former operation of pit.	2	2	2	BH57-11 and BH58-11	1	1	MW24-11	0	-	0	0	-		EBI
AOI 8	WWTP Sump	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		No (inspection only)
AOI 9	Hydraulic Lift	Delineate known residual TPH impacts.	1	1	1	BH12-11	0	0	-	0	-	0	0	-		1996 Limited Soil Investigation
AOI 10	Old Hazardous Waste Accumulation Area (Former Tank Storage Area)	No evidence to suggest a release based on results of EBI.	2	2	2	MW25-11 and MW26-11	2	3	MW25-11, MW26-11 and MW-105	0	-	0	0	-	One well installed up gradient of MW-105 and one well installed down gradient of MW-105.	EBay
AOI 10	Supplemental RI - Old Hazardous Waste Accumulation Area (Former Tank Storage Area)	Confirm aluminum results and pH at MW-105	0	0	0	-	0	1	MW-105	0	-	0	0	-	MW-105 was re sampled for metals to confirm results.	
AOI 11	New Hazardous Waste Accumulation Area	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		No (inspection only)
AOI 12	Test Track Waste Storage Area	Investigate possible impacts resulting from reported historical waste burning activities and presence of sludge in fence post holes that was hazardous for lead.	24	24	24	BH13-11 through BH35-11 and MW29-11	3	3	MW27-11 through MW29-11	0	-	0	0	-		No
AOI 12	Supplemental RI - Test Track Waste Storage Area	Delineate metals in soils and VOCs and metals from MW29-11.	56	56	0	BH18/2-12, BH24/2-12 and TT-1 through TT-54	1	5	MW27-11, MW28-11, MW29-11, and MW-35	0	-	0	0	-	Resampled BH18-11(BH18-11/2) and BH24-11 (BH24-11/2) for metals and Conducted grid sampling to delineate metals. Field screened with XRF to guide process. Installed MW-35 near BH34-11 as a down/cross gradient well to MW29-11 to sample for VOCs and total and dissolved Metals. No soil samples will be collected during well installation.	No
AOI 13	ELPO Areas	Investigate possible impacts to subsurface based on observance of degraded concrete within plant and at rinse tank.	1	1	1	BH36-11	0	1	BH36-11	0	-	0	0	-		
AOI 14	Phosphate Area	Investigate possible impacts to subsurface based on observance of degraded concrete.	1	1	1	BH37-11	0	0	-	0	-	0	0	-	Well installed under AOI 13 applies to this AOI as well. Well and Sample accounted for in AOI 13.	
AOI 15	Grit Separator Building	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		No (inspection only)
AOI 16	Petroleum Dispensing Area	Determine if petroleum impacts are present due to moderate staining observed.	5	5	5	BH38-11 through BH42-11	1	1	MW30-11	0	-	0	0	-		No

TABLE 3.1

SUMMARY OF REMEDIAL INVESTIGATION ACTIVITIES
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

AOI Number	*Investigation Area Description* [1]	*Rationale*	*No. of Boreholes*	*No. of Surface/Shallow Soil Samples*	*No. of Deep Subsurface Soil Samples*	*Soil Sample Locations*	*No. of New Monitoring Wells*	*No. of Groundwater Samples*	*Groundwater Sample Locations*	*No. of Soil Gas Samples*	*Soil Gas Sample Locations*	*No. of Sediment Samples*	*No. of Surface Water Samples*	*Sediment/Surface Water Sample Locations*	*Comments*	*Previous Investigation*
AOI 16	Supplemental RI - Petroleum Dispensing Area	Evaluate groundwater and soil gas/vapor quality along property line.	0	0	0	0	3	44	4 water samples from each VAS boring (40), MW-30, MW-36S, MW-36D, and MW-37	5	SG-1 through SG-5	0	0	-	Installed 10 borings and conduct vertical aquifer sampling (no soil samples were collected) to determine where to install MW-36S, MW-36D, and MW-37. Collect GW samples from MW30-11, MW-36S, MW-36D, and MW-37. Completed screening level soil gas sampling at 5 locations.	No (inspection only)
AOI 17	Former Petroleum Dispensing Area	Determine if petroleum impacts are present.	4	4	4	BH47-11 through BH46-11	1	1	MW31-11	0	-	0	0	-		No (inspection only)
AOI 18	OU-2 Area	Evaluate Concentrations of toluene and lead detected during OU-2 Investigation	0	0	0	-	0	3	MW-11, MW-15, and MW-10	0	-	0	0	-	1 sample at MW-11 for toluene, 1 sample at MW-15 for lead, and 1 sample at MW-10 for lead.	OU-2 Investigation
AOI 18	Supplemental RI - OU-2 Area	Complete the second round of sampling at MW-11, MW-15, and MW-10 for Toluene and Lead	0	0	0	-	0	3	MW-11, MW-15, and MW-10	0	-	0	0	-	1 sample at MW-11 for toluene, 1 sample at MW-15 for lead, and 1 sample at MW-10 for lead.	OU-2 Investigation
AOI 19	Lift Stations (to WWTP)	Conduct visual inspection to evaluate integrity and potential for release.	0	0	0	-	0	0	-	0	-	0	0	-	See Table 3.3	No
AOI 20	PCB Containing Equipment/Oil Stained Surfaces	Conduct visual inspection to evaluate the integrity of the concrete beneath in-ground conveyors to assess the potential for a release to the environment.	0	0	0	-	0	0	-	0	-	0	0	-	See Table 3.3	No
AOI 21	Railroad Tracks	DNREC requested this AOI be investigated. Install soil borings (2 per spur) to investigate presence of impacts at the three rail road spurs on the north side of the Main Assembly Plant.	6	6	6	BH47-11 through BH42-11	0	0	-	0	-	0	0	-		No
AOI 22	Oil Stained Gravel	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		No
AOI 23	Group 3 UST	Evaluate the horizontal and vertical extent of impacted soil in the vicinity of GP-130	4	4	4	BH53-11 through BH56-11	0	0	-	0	-	0	0	-		No
AOI 23	Supplemental RI - Group 3 UST	Confirm results of shallow soil metals results	1	1	0	BH53/2-12	0	0	-	0	-	0	0	-		No
AOI 24	Solvent ASTs	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		
AOI 25	Former Open Ditch	No evidence to suggest a release based on results of EBI.	0	0	0	-	0	0	-	0	-	0	0	-		
AOI 26	Outfall 001	Determine if impacts are present in creek sediments. Fisker requested swale samples.	0	0	0	-	0	0	-	0	-	7	0	Sed-1 through Sed-7	Four sediment samples collected in the swale. Three sediment samples collected from Outfall and Little Mill Creek.	Sampling following release
AOI 26	Supplemental RI - Outfall 001	Confirm SVOC impacts in creek sediments, determine surface water is impacted, collect upstream/background sediment and surface water samples to evaluate impacts. Evaluate potential of impacts in shallow soils in Wooded Area as part of the ERA. Additional groundwater sampling specifically for evaluation of metals impacts from Site groundwater to Little Mill Creek.	0	15	0	-	1	5	MW-27, MW-28, MW-35, MW-48. MW-109	0	-	11	12	Sed-8 through Sed-12 and SW-1 through SW-5 and SW SED 100-01 through SW SED 100-08	Five sediment samples collected (SED-8 through SED-9) - 1 upstream background, 1 immediately upstream of Outfall 001, 1 at Outfall 001, and two downstream of Outfall 001. Corresponding surface water samples (SW-1 through SW-5) collected at each location. Corresponding surface water and sediment samples at SW SED 100-01 through SW SED 100-04 and SW SED 100-07, Surface water only at SW SED 100-06 and SW SED 100-08, and Sediment only at SW SED 100-05.	
NA	Parking Lot	Evaluate presence of impacts from fill	6	6	6	BH59-11 through BH64-11	0	0	-	0	-	0	0	-		No
NA	Supplemental RI - Site Wide Groundwater	To better define groundwater flow direction and to measure pH.	0	0	0	-	2	0	-	0	-	0	0	-	The purpose of the two new wells MW-33 and MW-34 is to measure groundwater levels only. No soil or groundwater samples will be collected.	NA
		TOTALS	**124**	**137**	**67**		**18**	**81**		**5**		**18**	**12**			

Notes:

[1] "Areas of Interest (AOIs)" have been identified as those areas being investigated by Fisker as part of their Baseline Investigation and/or areas requiring investigation in accordance with DNREC's Investigation and Remediation Cost Estimate dated April 2010, and/or areas identified as REC's in the February 2010 Phase I ESA prepared by CRA.

TABLE 3.2

SAMPLING SUMMARY
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit / AOI	Sample ID	Location ID	Sample Date	Start Depth (ft bgs)	End Depth (ft bgs)	Parent Sample ID (Sample ID of original sample for duplicates, etc.)	Laboratory / Confirmatory Analysis	TCL VOCs	TCL SVOCs	TAL Metals	PCB	Pesticides	Dissolved TAL Metals	TOTAL LEAD	DISSOLVED LEAD	TOLUENE	DRO	GRO	Grain Size	Total Organic Carbon/Black Carbon	Acid Volatile Sulfides	Simultaneously Extracted Metals	PAH (34 Homologues)
	SOIL																						
Operable Unit 3																							
AOI 4 - Kolene AST	SO-17338-091311-MM-01	BH1-11	9/13/2011	0	2			S	S	S	S	S											
	SO-17338-091311-MM-02	BH1-11	9/13/2011	12	14			S	S	S	S	S											
	SO-17338-091311-MM-03	BH2-11	9/13/2011	0	2			S	S	S	S	S											
	SO-17338-091311-MM-04	BH2-11	9/13/2011	13	15			S	S	S	S	S											
AOI 5 - Diesel Oil UST by Power House	SO-17338-091511-MM-011	BH3-11	9/15/2011	0	2			S	S	S	S	S											
	SO-17338-091511-MM-012	BH3-11	9/15/2011	7	9			S	S	S	S	S											
	SO-17338-091511-MM-013	BH4-11/MW-23	9/15/2011	0	2			S	S	S	S	S											
	SO-17338-091511-MM-014	BH4-11/MW-23	9/15/2011	7	9			S	S	S	S	S											
	SO-17338-091511-MM-015	BH5-11	9/15/2011	0	2		Yes	S	S/X	S/X	S/X	S/X											
	SO-17338-091511-MM-016	BH5-11	9/15/2011	7	9			S	S	S	S	S											
AOI 6 - Modular Paint Pits and Mixing Area Sumps / East of Mod Paint Building	SO-17338-101011-MM-149	BH6-11	10/10/2011	0	2		Yes	S/X	S/X	S	S	S											
	SO-17338-101011-MM-150	BH6-11	10/10/2011	13	15			S	S	S	S	S											
	SO-17338-101011-MM-151	BH7-11	10/10/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-101011-MM-152	BH7-11	10/10/2011	0	2	SO-17338-101011-MM-151	Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-101011-MM-153	BH7-11	10/10/2011	8	10			S	S	S	S	S											
	SO-17338-101011-MM-154	BH8-11	10/10/2011	0	2			S	S	S	S	S											
	SO-17338-101011-MM-155	BH8-11	10/10/2011	12	14		Yes	S/X	S	S/X	S	S											
	SO-17338-091511-MM-017	BH10-11	9/15/2011	4	5		Yes	S/X	S	S/X	S	S											
	SO-17338-091511-MM-018	BH11-11	9/15/2011	4	5			S	S	S	S	S											
	SO-17338-092011-MM-033	MW-32	9/20/2011	0	2			S	S	S	S	S											
	SO-17338-092011-MM-034	MW-32	9/20/2011	11	13			S	S	S	S	S											
AOI 7 - Acetylene Sludge Pits	SO-17338-092011-MM-035	BH57-11/MW-24	9/20/2011	O	2			S	S	S	S	S											
	SO-17338-092011-MM-036	BH57-11/MW-24	9/20/2011	7	9			S	S	S	S	S											
	SO-17338-092011-MM-037	BH58-11	9/20/2011	0	2			S	S	S	S	S											
	SO-17338-092011-MM-038	BH58-11	9/20/2011	5	7		Yes	S/X	S/X	S/X	S/X	S/X											
AOI 9 - Hydraulic Lift	SO-17338-091411-MM-09	BH12-11	9/14/2011	0	2		Yes	S	S	S	S/X	S/X											
	SO-17338-091411-MM-010	BH12-11	9/14/2011	16	18		Yes	S/X	S/X	S/X	S	S											
AOI 10 - Old Hazardous Waste Accumulation Araea	SO-17338-092111-MM-039	MW-25	9/21/2011	0	2			S	S	S	S	S											
	SO-17338-092111-MM-040	MW-25	9/21/2011	0	2	SO-17338-092111-MM-039		S	S	S	S	S											
	SO-17338-092111-MM-041	MW-25	9/21/2011	7	9			S	S	S	S	S											
	SO-17338-092111-MM-042	MW-26	9/21/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092111-MM-043	MW-26	9/21/2011	7	9		Yes	S/X	S/X	S/X	S/X	S/X											
AOI 13 - ELPO Area	SO-17338-091411-MM-07	BH36-11	9/14/2011	0	2		Yes	S/X	S	S/X	S	S											
	SO-17338-091411-MM-08	BH36-11	9/14/2011	12	14			S	S	S	S	S											
A1OI 13 - ELPO Area and AOI 14 - Phosphate Area	SO-17338-091311-MM-05	BH37-11	9/13/2011	0	2			S	S	S	S	S											
	SO-17338-091311-MM-06	BH37-11	9/13/2011	11	13			S	S	S	S	S											
AOI 21 - Railroad Tracks	SO-17338-092111-MM-044	BH47-11	9/21/2011	0	2			S	S	S	S	S											
	SO-17338-092111-MM-045	BH47-11	9/21/2011	4	6			S	S	S	S	S											
	SO-17338-092111-MM-048	BH48-11	9/21/2011	0	2			S	S	S	S	S											
	SO-17338-092111-MM-049	BH48-11	9/21/2011	0	2	SO-17338-092111-MM-048		S	S	S	S	S											
	SO-17338-092111-MM-050	BH48-11	9/21/2011	7	9			S	S	S	S	S											
	SO-17338-092111-MM-046	BH49-11	9/21/2011	0	2			S	S	S	S	S											
	SO-17338-092111-MM-047	BH49-11	9/21/2011	7	9			S	S	S	S	S											

TABLE 3.2

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Operable Unit / AOI	*Sample ID*	*Location ID*	*Sample Date*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Parent Sample ID (Sample ID of original sample for duplicates, etc.)*	*Laboratory / Confirmatory Analysis*	*TCL VOCs*	*TCL SVOCs*	*TAL Metals*	*PCB*	*Pesticides*	*Dissolved TAL Metals*	*TOTAL LEAD*	*DISSOLVED LEAD*	*TOLUENE*	*DRO*	*GRO*	*Grain Size*	*Total Organic Carbon/Black Carbon*	*Acid Volatile Sulfides*	*Simultaneously Extracted Metals*	*PAH (34 Homologues)*
AOI 21 - Railroad Tracks Cont.	SO-17338-092211-MM-051	BH50-11	9/22/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092211-MM-052	BH50-11	9/22/2011	7	9			S	S	S	S	S											
	SO-17338-092211-MM-053	BH51-11	9/22/2011	0	2			S	S	S	S	S											
	SO-17338-092211-MM-054	BH51-11	9/22/2011	9	11		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092211-MM-055	BH52-11	9/22/2011	0	2		Yes	S	S	S/X	S/X	S/X											
	SO-17338-092211-MM-056	BH52-11	9/22/2011	13	15			S	S	S	S	S											
Parking Lot	SO-17338-091911-MM-020	BH59-11	9/19/2011	0	2			S	S	S	S	S											
	SO-17338-091911-MM-021	BH59-11	9/19/2011	16	18			S	S	S	S	S											
	SO-17338-092011-MM-031	BH60-11	9/20/2011	0	2			S	S	S	S	S											
	SO-17338-092011-MM-032	BH60-11	9/20/2011	13	15			S	S	S	S	S											
	SO-17338-091911-MM-029	BH61-11	9/19/2011	0	2			S	S	S	S	S											
	SO-17338-091911-MM-030	BH61-11	9/19/2011	13	15		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-091911-MM-022	BH62-11	9/19/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-091911-MM-023	BH62-11	9/19/2011	0	2	SO-17338-091911-MM-022	Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-091911-MM-024	BH62-11	9/19/2011	15	17			S	S	S	S	S											
	SO-17338-091911-MM-025	BH63-11	9/19/2011	0	2			S	S	S	S	S											
	SO-17338-091911-MM-026	BH63-11	9/19/2011	14	16			S	S	S	S	S											
	SO-17338-091911-MM-027	BH64-11	9/19/2011	0	2			S	S	S	S	S											
	SO-17338-091911-MM-028	BH64-11	9/19/2011	13	15			S	S	S	S	S											
Operable Unit 4																							
AOI 16 - Petroleum Dispensing Area and Historical USTs	SO-17338-092611-MM-070	BH38-11	9/26/2011	0	2		Yes	S/X	S/X	S	S/X	S/X											
	SO-17338-092611-MM-071	BH38-11	9/26/2011	9	10		Yes	S/X	S/X	S	S/X	S/X											
	SO-17338-092611-MM-072	BH38-11	9/26/2011	9	10	SO-17338-092611-MM-071	Yes	S/X	S/X	S	S/X	S/X											
	SO-17338-092611-MM-075	BH39-11	9/26/2011	4	5		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092611-MM-076	BH39-11	9/26/2011	13	15		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092611-MM-073	BH40-11	9/26/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092611-MM-074	BH40-11	9/26/2011	9	10		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092711-MM-077	BH41-11	9/27/2011	2	4			S	S	S	S	S											
	SO-17338-092711-MM-078	BH41-11	9/27/2011	15	17			S	S	S	S	S											
	SO-17338-092711-MM-079	BH42-11	9/27/2011	0	2			S	S	S	S	S											
	SO-17338-092711-MM-080	BH42-11	9/27/2011	15	17			S	S	S	S	S											
AOI 17 - Former Petroleum Dispensing Area	SO-17338-092611-MM-066	BH43-11	9/26/2011	0	2			S	S	S	S	S											
	SO-17338-092611-MM-067	BH43-11	9/26/2011	12	14			S	S	S	S	S											
	SO-17338-092611-MM-064	BH44-11	9/26/2011	0	2			S	S	S	S	S											
	SO-17338-092611-MM-065	BH44-11	9/26/2011	12	14			S	S	S	S	S											
	SO-17338-092611-MM-062	BH45-11	9/26/2011	0	2			S	S	S	S	S											
	SO-17338-092611-MM-063	BH45-11	9/26/2011	12	14			S	S	S	S	S											
	SO-17338-092611-MM-068	BH46-11/MW-31	9/26/2011	0	2			S	S	S	S	S											
	SO-17338-092611-MM-069	BH46-11/MW-31	9/26/2011	13	15			S	S	S	S	S											
Operable Unit 5																							
AOI 12 - Test Track Area	SO-17338-092211-MM-057	BH13-11	9/22/2011	0	2			S	S	S	S	S											
	SO-17338-092211-MM-058	BH13-11	9/22/2011	8	10			S	S	S	S	S											
	SO-17338-092611-MM-060	BH14-11	9/26/2011	0	2		Yes	S/X	S/X	S	S/X	S/X											
	SO-17338-092611-MM-061	BH14-11	9/26/2011	5	5.5			S	S	S	S	S											
	SO-17338-100311-MM-118	BH15-11	10/3/2011	0	2			S	S	S	S	S											
	SO-17338-100311-MM-119	BH15-11	10/3/2011	6	8			S	S	S	S	S											
	SO-17338-092911-MM-112	BH16-11	9/29/2011	0	2			S	S	S	S	S											
	SO-17338-092911-MM-113	BH16-11	9/29/2011	8	10		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-100311-MM-114	BH17-11	10/3/2011	0	2			S	S	S	S	S											
	SO-17338-100311-MM-115	BH17-11	10/3/2011	11	13			S	S	S	S	S											

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WILMINGTON, DELAWARE

Operable Unit / AOI	Sample ID	Location ID	Sample Date	Start Depth (ft bgs)	End Depth (ft bgs)	Parent Sample ID (Sample ID of original sample for duplicates, etc.)	Laboratory / Confirmatory Analysis	TCL VOCs	TCL SVOCs	TAL Metals	PCB	Pesticides	Dissolved TAL Metals	TOTAL LEAD	DISSOLVED LEAD	TOLUENE	DRO	GRO	Grain Size	Total Organic Carbon/Black Carbon	Acid Volatile Sulfides	Simultaneously Extracted Metals	PAH (34 Homologues)
AOI 12 - Test Track Area Cont.	SO-17338-100311-MM-120	BH18-11	10/3/2011	0	2			S	S	S	S	S											
	SO-17338-100311-MM-121	BH18-11	10/3/2011	7	9			S	S	S	S	S											
	SO-17338-092911-MM-110	BH19-11/MW-27	9/29/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092911-MM-111	BH19-11/MW-27	9/29/2011	7	9			S	S	S	S	S											
	SO-17338-100311-MM-122	BH20-11	10/3/2011	0	2		Yes	S	S	S/X	S	S											
	SO-17338-100311-MM-123	BH20-11	10/3/2011	8	10			S	S	S	S	S											
	SO-17338-092711-MM-083	BH21-11	9/27/2011	0	2			S	S	S	S	S											
	SO-17338-092711-MM-084	BH21-11	9/27/2011	12	14			S	S	S	S	S											
	SO-17338-100311-MM-116	BH22-11	10/3/2011	0	2			S	S	S	S	S											
	SO-17338-100311-MM-117	BH22-11	10/3/2011	8	10			S	S	S	S	S											
	SO-17338-092711-MM-081	BH23-11	9/27/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092711-MM-082	BH23-11	9/27/2011	8	10			S	S	S	S	S											
	SO-17338-100311-MM-124	BH24-11	10/3/2011	0	2			S	S	S	S	S											
	SO-17338-100311-MM-125	BH24-11	10/3/2011	6	8			S	S	S	S	S											
	SO-17338-092811-MM-089	BH25-11	9/28/2011	0	2			S	S	S	S	S											
	SO-17338-092811-MM-090	BH25-11	9/28/2011	13	14			S	S	S	S	S											
	SO-17338-092811-MM-093	BH26-11	9/28/2011	0	2			S	S	S	S	S											
	SO-17338-092811-MM-094	BH26-11	9/28/2011	7	9			S	S	S	S	S											
	SO-17338-092911-MM-104	BH27-11/MW-28	9/29/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092911-MM-105	BH27-11/MW-28	9/29/2011	7	9		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092911-MM-101	BH28-11	9/29/2011	0	2			S	S	S	S	S											
	SO-17338-092911-MM-102	BH28-11	9/29/2011	0	2	SO-17338-092911-MM-101		S	S	S	S	S											
	SO-17338-092911-MM-103	BH28-11	9/29/2011	3	5			S	S	S	S	S											
	SO-17338-092811-MM-087	BH29-11	9/28/2011	0	2			S	S	S	S	S											
	SO-17338-092811-MM-088	BH29-11	9/28/2011	12	14			S	S	S	S	S											
	SO-17338-092811-MM-095	BH30-11	9/28/2011	0	2			S	S	S	S	S											
	SO-17338-092811-MM-096	BH30-11	9/28/2011	7	9			S	S	S	S	S											
	SO-17338-092911-MM-106	BH31-11	9/29/2011	0	2			S	S	S	S	S											
	SO-17338-092911-MM-107	BH31-11	9/29/2011	6	8			S	S	S	S	S											
	SO-17338-092911-MM-099	BH32-11	9/29/2011	0	2			S	S	S	S	S											
	SO-17338-092911-MM-100	BH32-11	9/29/2011	5	7		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092811-MM-091	BH33-11	9/28/2011	0	2		Yes	S	S	S/X	S/X	S/X											
	SO-17338-092811-MM-092	BH33-11	9/28/2011	7	9			S	S	S	S	S											
	SO-17338-092911-MM-108	BH34-11	9/29/2011	0	2		Yes	S	S/X	S/X	S	S											
	SO-17338-092911-MM-109	BH34-11	9/29/2011	7	9			S	S	S	S	S											
	SO-17338-092811-MM-097	BH35-11	9/28/2011	0	2			S	S	S	S	S											
	SO-17338-092811-MM-098	BH35-11	9/28/2011	7	9			S	S	S	S	S											
	SO-17338-092711-MM-085	MW-29	9/27/2011	0	2		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-092711-MM-086	MW-29	9/27/2011	17	19		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-080612-MM-201	BH-18/2	8/6/2012	0.6	2		Yes			S/X													
	SO-17338-080612-MM-202	BH-24/2	8/6/2012	0.6	2		Yes			S/X													
	SO-17338-082212-MM-203	TT-1	8/22/2012	0.6	2					S													
	SO-17338-082212-MM-204	TT-2	8/22/2012	2	4					S													
	SO-17338-082212-MM-205	TT-3	8/22/2012	4	6					S													
	SO-17338-082212-MM-206	TT-4	8/22/2012	4	6					S													
	SO-17338-082212-MM-207	TT-5	8/22/2012	4	6					S													
	SO-17338-082212-MM-208	TT-6	8/22/2012	0.6	2		Yes			S/X													
	SO-17338-082212-MM-209	TT-7	8/23/2012	0.6	2					S													
	-	TT-8	8/23/2012	0.6	2					S													
	SO-17338-082312-MM-210	TT-9	8/23/2012	2	4		Yes			S/X													
	SO-17338-082312-MM-211	TT-10	8/23/2012	2	4					S													
	SO-17338-082312-MM-212	TT-11	8/23/2012	6	8					S													
	SO-17338-082312-MM-213	TT-12	8/23/2012	4	6					S													
	SO-17338-082312-MM-214	TT-13	8/23/2012	6	8					S													
	SO-17338-082312-MM-215	TT-14	8/23/2012	0.6	2					S													
	SO-17338-082312-MM-216	TT-15	8/23/2012	0.6	2					S													

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Operable Unit / AOI	*Sample ID*	*Location ID*	*Sample Date*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Parent Sample ID (Sample ID of original sample for duplicates, etc.)*	*Laboratory / Confirmatory Analysis*	*TCL VOCs*	*TCL SVOCs*	*TAL Metals*	*PCB*	*Pesticides*	*Dissolved TAL Metals*	*TOTAL LEAD*	*DISSOLVED LEAD*	*TOLUENE*	*DRO*	*GRO*	*Grain Size*	*Total Organic Carbon/Black Carbon*	*Acid Volatile Sulfides*	*Simultaneously Extracted Metals*	*PAH (34 Homologues)*
AOI 12 - Test Track Area Cont.	SO-17338-082312-MM-217	TT-16	8/23/2012	4	6		Yes			S/X													
	SO-17338-082312-MM-218	TT-17	8/23/2012	0.6	2		Yes			S/X													
	SO-17338-082312-MM-219	TT-18	8/23/2012	0.6	2					S													
	SO-17338-082912-MM-220	TT-19	8/29/2012	0.6	2					S													
	SO-17338-082912-MM-221	TT-20	8/29/2012	4	6					S													
	SO-17338-082912-MM-222	TT-21	8/29/2012	4	6					S													
	SO-17338-082912-MM-223	TT-22	8/29/2012	2	4		Yes			S/X													
	SO-17338-082912-MM-224	TT-23	8/29/2012	2	4					S													
	SO-17338-082912-MM-225	TT-24	8/29/2012	0.6	2		Yes			S/X													
	SO-17338-082912-MM-226	TT-25	8/29/2012	0.6	2					S													
	SO-17338-082912-MM-227	TT-26	8/29/2012	2	4		Yes			S/X													
	SO-17338-082912-MM-228	TT-27	8/29/2012	4	6					S													
	SO-17338-082912-MM-229	TT-28	8/29/2012	4	6					S													
	SO-17338-082912-MM-230	TT-29	8/29/2012	0.6	2					S													
	SO-17338-082912-MM-231	TT-30	8/29/2012	2	4					S													
	SO-17338-083012-MM-232	TT-31	8/30/2012	0.6	2					S													
	SO-17338-083012-MM-233	TT-32	8/30/2012	0.6	2					S													
	SO-17338-083012-MM-234	TT-33	8/30/2012	2	4					S													
	SO-17338-083012-MM-235	TT-34	8/30/2012	2	4		Yes			S/X													
	SO-17338-0830212-MM-236	TT-34	8/30/2012	2	4	SO-17338-08302012-MM-235	Yes			S/X													
	SO-17338-083012-MM-237	TT-35	8/30/2012	4	6		Yes			S/X													
	SO-17338-083012-MM-238	TT-36	8/30/2012	0.6	2					S													
	SO-17338-083012-MM-239	TT-37	8/30/2012	2	4					S													
	SO-17338-083012-MM-240	TT-38	8/30/2012	0.6	2					S													
	SO-17338-090612-MM-241	TT-39	9/6/2012	2	4					S													
	SO-17338-090612-MM-242	TT-40	9/6/2012	0.6	2					S													
	SO-17338-090612-MM-243	TT-41	9/6/2012	2	4		Yes			S/X													
	SO-17338-090612-MM-244	TT-42	9/6/2012	0.6	2					S													
	SO-17338-090612-MM-245	TT-43	9/6/2012	0.6	2					S													
	SO-17338-090612-MM-246	TT-43	9/6/2012	0.6	2	SO-17338-090612-MM-245				S													
	SO-17338-090612-MM-247	TT-44	9/6/2012	0.6	2		Yes			S/X													
	SO-17338-090612-MM-248	TT-45	9/6/2012	0.6	2					S													
	SO-17338-090612-MM-249	TT-46	9/6/2012	0.6	2					S													
	SO-17338-091012-MM-250	TT-47	9/10/2012	0.6	2					S													
	SO-17338-091012-MM-251	TT-48	9/10/2012	0.6	2		Yes			S/X													
	SO-17338-091012-MM-252	TT-49	9/10/2012	0.6	2					S													
	SO-17338-091012-MM-253	TT-50	9/10/2012	2	4		Yes			S/X													
	SO-17338-091012-MM-254	TT-51	9/10/2012	0.6	2					S													
	SO-17338-091012-MM-255	TT-52	9/10/2012	0.6	2		Yes			S/X													
	SO-17338-091012-MM-256	TT-53	9/10/2012	0.6	2					S													
	SO-17338-091212-MM-257	TT-54	9/12/2012	0.6	2					S													
AOI 23 - Group 3 UST	SO-17338-100411-MM-130	BH53-11	10/4/2011	0	2			S	S	S	S	S											
	SO-17338-100411-MM-131	BH53-11	10/4/2011	7	9		Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-100411-MM-132	BH53-11	10/4/2011	7	9	SO-17338-100411-MM-131	Yes	S/X	S/X	S/X	S/X	S/X											
	SO-17338-100411-MM-126	BH54-11	10/4/2011	0	2			S	S	S	S	S											
	SO-17338-100411-MM-127	BH54-11	10/4/2011	0	2	SO-17338-100411-MM-126		S	S	S	S	S											
	SO-17338-100411-MM-128	BH54-11	10/4/2011	7	9			S	S	S	S	S											
	SO-17338-100411-MM-129	BH54-11	10/4/2011	7	9	SO-17338-100411-MM-128		S	S	S	S	S											
	SO-17338-100411-MM-136	BH55-11	10/4/2011	0	2			S	S	S	S	S											
	SO-17338-100411-MM-137	BH55-11	10/4/2011	7	9			S	S	S	S	S											
	SO-17338-100411-MM-133	BH56-11	10/4/2011	0	2			S	S	S	S	S											
	SO-17338-100411-MM-134	BH56-11	10/4/2011	0	2	SO-17338-100411-MM-133		S	S	S	S	S											
	SO-17338-100411-MM-135	BH56-11	10/4/2011	7	9			S	S	S	S	S											
	SO-17338-080612-MM-200	BH-53/2	8/6/2012	0.6	2		Yes			S/X													

TABLE 3.2

SAMPLING SUMMARY
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit / AOI	Sample ID	Location ID	Sample Date	Start Depth (ft bgs)	End Depth (ft bgs)	Parent Sample ID (Sample ID of original sample for duplicates, etc.)	Laboratory / Confirmatory Analysis	TCL VOCs	TCL SVOCs	TAL Metals	PCB	Pesticides	Dissolved TAL Metals	TOTAL LEAD	DISSOLVED LEAD	TOLUENE	DRO	GRO	Grain Size	Total Organic Carbon/Black Carbon	Acid Volatile Sulfides	Simultaneously Extracted Metals	PAH (34 Homologues)
Operable Unit 6																							
Wooded Area	SO-17338-100214-SEB-001	STA-001	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-002	STA-001	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-003	STA-002	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-004	STA-003	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-005	STA-005	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-006	STA-007	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-007	STA-009	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-008	STA-011	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-009	STA-014	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-010	STA-015	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-011	STA-012	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-012	STA-008	10/2/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-013	STA-013	10/3/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-014	STA-010	10/3/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-015	STA-006	10/3/2014	0	2		Yes	X	X	X	X	X											
	SO-17338-100214-SEB-016	STA-004	10/3/2014	0	2		Yes	X	X	X	X	X											
GROUNDWATER																							
Operable Unit 3																							
AOI 1 - No. 6 Fuel Oil AST	GW-17338-110111-MW22-10	MW-22	11/1/2011	NA	NA		Yes			X													
AOI 5 - Diesel Oil UST by Power House	GW-17338-102611-MW23-01	MW-23	10/26/2011	NA	NA		Yes	X	X	X	X	X	X										
AOI 6 - Modular Paint Pits and Mixing Area Sumps / East of Mod Paint Building	GW-17338-091611-MM-03	BH10-11	9/16/2011	NA	NA		Yes	X	X	X	X		X										
	GW-17338-091611-MM-02	BH11-11	9/16/2011	NA	NA		Yes	X	X	X	X		X										
	GW-17338-110211-MW32-15	MW-32	11/2/2011	NA	NA		Yes[1]	X		X			X										
	GW-17338-110711-MW32-19	MW-32	11/7/2011	NA	NA		Yes[1]		X		X	X											
	WG-17338-100112-MW32-MM-248	MW-32	10/1/2012	NA	NA		Yes	X			X												
	WG-17338-100112-MW110-MM-249	MW-110	10/1/2012	NA	NA		Yes	X			X												
	WG-17338-100212-MW100-MM-250	MW-100	10/2/2012	NA	NA		Yes	X			X												
	WG-17338-100512-MW14-MM-251	MW-14	10/5/2012	NA	NA		Yes	X			X												
	WG-17338-100512-MW101-MM-252	MW-101	10/5/2012	NA	NA		Yes	X			X												
AOI 7 - Acetylene Sludge Pits	GW-17338-103111-MW24-02	MW-24	10/31/2011	NA	NA		Yes	X	X	X	X	X	X										
AOI 10 - Old Hazardous Waste Accumulation Area	GW-17338-103111-MW25-03	MW-25	10/31/2011	NA	NA		Yes	X	X	X	X	X	X										
	GW-17338-103111-MW26-04	MW-26	10/31/2011	NA	NA		Yes	X	X	X	X	X	X										
	GW-17338-110211-MW105-14	MW-105	11/2/2011	NA	NA		Yes	X	X	X	X	X	X										
	WG-17338-101112-MW105-MM-257	MW-105	10/11/2012	NA	NA		Yes			X			X										
AOI 13 - ELPO Area and AOI 14 - Phosphate Area	GW-17338-091611-MM-01	BH36-11	9/16/2011	NA	NA		Yes	X	X	X	X	X											
AOI 18 - OU-2 Area	GW-17338-110711-MW11-18	MW-11	11/7/2011	NA	NA		Yes													X			
	GW-17338-110311-MW110-16	MW-110	11/3/2011	NA	NA		Yes							X	X								
	GW-17338-110311-MW15-17	MW-15	11/3/2011	NA	NA		Yes							X	X								
	WG-17338-101112-MW11-MM-254	MW-11	10/11/2012	NA	NA		Yes													X			
	WG-17338-101112-MW10-MM-255	MW-10	10/11/2012	NA	NA		Yes							X	X								
	WG-17338-101112-MW15-MM-256	MW-15	10/11/2012	NA	NA		Yes							X	X								
Operable Unit 4																							
AOI 16 - Petroleum Dispensing Area and Historical USTs	GW-17338-110111-MW30-06	MW-30	11/1/2011	NA	NA		Yes	X	X	X	X	X	X										
	WG-17338-080812-VAS1-MM-204	VAS-1	8/8/2012	30	35		Yes	X															

TABLE 3.2

SAMPLING SUMMARY
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit / AOI	*Sample ID*	*Location ID*	*Sample Date*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Parent Sample ID (Sample ID of original sample for duplicates, etc.)*	*Laboratory / Confirmatory Analysis*	*TCL VOCs*	*TCL SVOCs*	*TAL Metals*	*PCB*	*Pesticides*	*Dissolved TAL Metals*	*TOTAL LEAD*	*DISSOLVED LEAD*	*TOLUENE*	*DRO*	*GRO*	*Grain Size*	*Total Organic Carbon/Black Carbon*	*Acid Volatile Sulfides*	*Simultaneously Extracted Metals*	*PAH (34 Homologues)*
AOI 16 - Petroleum Dispensing Area and Historical USTs Cont.	WG-17338-080812-VAS1-MM-205	VAS-1	8/8/2012	25	30		Yes	X															
	WG-17338-080812-VAS1-MM-206	VAS-1	8/8/2012	20	35		Yes	X															
	WG-17338-080812-VAS1-MM-207	VAS-1	8/8/2012	15	20		Yes	X															
	WG-17338-080712-VAS2-MM-200	VAS-2	8/7/2012	15	20		Yes	X															
	WG-17338-080712-VAS2-MM-201	VAS-2	8/7/2012	30	35		Yes	X															
	WG-17338-080712-VAS2-MM-202	VAS-2	8/7/2012	25	30		Yes	X															
	WG-17338-080712-VAS2-MM-203	VAS-2	8/7/2012	20	25		Yes	X															
	WG-17338-080812-VAS3-MM-208	VAS-3	8/8/2012	30	35		Yes	X															
	WG-17338-080812-VAS3-MM-209	VAS-3	8/8/2012	25	30		Yes	X															
	WG-17338-080812-VAS3-MM-210	VAS-3	8/8/2012	20	25		Yes	X															
	WG-17338-080812-VAS3-MM-211	VAS-3	8/8/2012	15	20		Yes	X															
	WG-17338-081012-VAS4-MM-227	VAS-4	8/10/2012	30	35		Yes	X															
	WG-17338-081012-VAS4-MM-228	VAS-4	8/10/2012	25	30		Yes	X															
	WG-17338-081012-VAS4-MM-229	VAS-4	8/10/2012	20	25		Yes	X															
	WG-17338-081012-VAS4-MM-230	VAS-4	8/10/2012	15	20		Yes	X															
	WG-17338-080912-VAS5-MM-222	VAS-5	8/9/2012	30	35		Yes	X															
	WG-17338-080912-VAS5-MM-223	VAS-5	8/9/2012	25	30		Yes	X															
	WG-17338-080912-VAS5-MM-224	VAS-5	8/9/2012	20	25		Yes	X															
	WG-17338-080912-VAS5-MM-225	VAS-5	8/9/2012	15	20		Yes	X															
	WG-17338-080912-VAS6-MM-213	VAS-6	8/9/2012	30	35		Yes	X															
	WG-17338-080912-VAS6-MM-214	VAS-6	8/9/2012	25	30		Yes	X															
	WG-17338-080912-VAS6-MM-215	VAS-6	8/9/2012	20	25		Yes	X															
	WG-17338-080912-VAS6-MM-216	VAS-6	8/9/2012	20	25	WG-17338-080912-VAS6-MM-215	Yes	X															
	WG-17338-080912-VAS6-MM-217	VAS-6	8/9/2012	15	20		Yes	X															
	WG-17338-080912-VAS7-MM-218	VAS-7	8/9/2012	30	35		Yes	X															
	WG-17338-080912-VAS7-MM-219	VAS-7	8/9/2012	25	30		Yes	X															
	WG-17338-080912-VAS7-MM-220	VAS-7	8/9/2012	20	25		Yes	X															
	WG-17338-080912-VAS7-MM-221	VAS-7	8/9/2012	15	20		Yes	X															
	WG-17338-081312-VAS8-MM-232	VAS-8	8/13/2012	30	35		Yes	X															
	WG-17338-081312-VAS8-MM-233	VAS-8	8/13/2012	25	30		Yes	X															
	WG-17338-081312-VAS8-MM-234	VAS-8	8/13/2012	20	25		Yes	X															
	WG-17338-081312-VAS8-MM-235	VAS-8	8/13/2012	15	20		Yes	X															
	WG-17338-091112-VAS9-MM-238	VAS-9	9/10/2012	30	35		Yes	X															
	WG-17338-091112-VAS9-MM-239	VAS-9	9/10/2012	25	30		Yes	X															
	WG-17338-091112-VAS9-MM-240	VAS-9	9/10/2012	20	25		Yes	X															
	WG-17338-091112-VAS9-MM-241	VAS-9	9/10/2012	15	20		Yes	X															
	WG-17338-091112-VAS9-MM-242	VAS-9	9/10/2012	15	20	WG-17338-091112-VAS9-MM-242	Yes	X															
	WG-17338-091112-VAS10-MM-243	VAS-10	9/10/2012	30	35		Yes	X															
	WG-17338-091112-VAS10-MM-244	VAS-10	9/10/2012	25	30		Yes	X															
	WG-17338-091112-VAS10-MM-245	VAS-10	9/10/2012	20	25		Yes	X															
	WG-17338-091112-VAS11-MM-246	VAS-10	9/10/2012	15	20		Yes	X															
	WG-17338-102212-MW30-MM-264	MW-30	10/22/2012	NA	NA		Yes	X	X	X			X										
	WG-17338-1022120MW36S-MM-265	MW-36S	10/22/2012	NA	NA		Yes	X	X	X			X										
	WG-17338-102312-MW36D-MM-266	MW-36D	10/23/2012	NA	NA		Yes	X	X	X			X										
	WG-17338-111612-MW37-CE-269	MW-37	11/16/2012	NA	NA		Yes	X	X	X			X										
AOI 17 - Former Petroleum Dispensing Area	GW-17338-103111-MW31-05	MW-31	10/31/2011	NA	NA		Yes	X	X	X	X	X	X										
Operable Unit 5																							
AOI 12 - Test Track Area	GW-17338-110111-MW27-09	MW-27	11/1/2011	NA	NA		Yes	X	X	X	X	X	X										
	GW-17338-110211-MW28-12	MW-28	11/2/2011	NA	NA		Yes	X	X	X	X	X	X										
	GW-17338-110111-MW29-07	MW-29	11/1/2011	NA	NA		Yes	X	X	X	X	X	X										
	GW-17338-110111-DUP-08	MW-29	11/1/2011	NA	NA	GW-17338-110111-MW29-07	Yes	X	X	X	X	X	X										
	WG-17338-101812-MW29-MM-259	MW-29	10/18/2012	NA	NA		Yes	X		X			X										
	WG-17338-101812-MW28-MM-260	MW-28	10/18/2012	NA	NA		Yes	X		X			X										
	WG-17338-101812-MW35-MM-261	MW-35	10/18/2012	NA	NA		Yes	X		X			X										
	WG-17338-101812-MW27-MM-262	MW-27	10/18/2012	NA	NA		Yes	X		X			X										

TABLE 3.2

SAMPLING SUMMARY
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit / AOI	*Sample ID*	*Location ID*	*Sample Date*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Parent Sample ID (Sample ID of original sample for duplicates, etc.)*	*Laboratory / Confirmatory Analysis*	*TCL VOCs*	*TCL SVOCs*	*TAL Metals*	*PCB*	*Pesticides*	*Dissolved TAL Metals*	*TOTAL LEAD*	*DISSOLVED LEAD*	*TOLUENE*	*DRO*	*GRO*	*Grain Size*	*Total Organic Carbon/Black Carbon*	*Acid Volatile Sulfides*	*Simultaneously Extracted Metals*	*PAH (34 Homologues)*
AOI 12 - Test Track Area Cont.	WG-17338-111612-MW35-CE-268	MW-35	11/16/2012	NA	NA		Yes		X														
Operable Unit 6																							
AOI 26 - Outfall 001 and Wooded Area	WG-17338-111214-RR-001	MW-48	11/12/2015	NA	NA		Yes						X										
	WG-17338-111214-RR-002	MW-35	11/12/2015	NA	NA		Yes						X										
	WG-17338-111214-RR-003	MW-28	11/12/2015	NA	NA		Yes						X										
	WG-17338-111214-RR-005	MW-27	11/12/2015	NA	NA		Yes						X										
	WG-17338-111214-RR-006	MW-109	11/12/2015	NA	NA		Yes						X										
Operable Unit 6	***SEDIMENT***																						
AOI 26 - Outfall 001	SO-17338-100511-MM-146	SED 1	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-145	SED 2	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-144	SED 3	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-143	SED 4	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-142	SED 5	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-141	SED 6	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-100511-MM-140	SED 7	10/5/2011	0	0.5		Yes	X	X	X	X	X					X	X					
	SO-17338-091712-SED8-MM204	SED 8	9/17/2012	0	0.5		Yes		X	X													
	SO-17338-091712-SED9-MM203	SED 9	9/17/2012	0	0.5		Yes		X	X													
	SO-17338-091712-SED10-MM202	SED 10	9/17/2012	0	0.5		Yes		X	X													
	SO-17338-091712-SED11-MM201	SED 11	9/17/2012	0	0.5		Yes		X	X													
	SO-17338-091712-SED12-MM200	SED 12	9/17/2012	0	0.5		Yes		X	X													
	SED-17338-111214-SMJ-100-01	SW/SED 100-01	11/12/2014	0	0.5		Yes												X	X	X	X	X
	SED-17338-111214-SMJ-100-02	SW/SED 100-02	11/12/2014	0	0.5		Yes												X	X	X	X	X
	SED-17338-111214-SMJ-100-03	SW/SED 100-03	11/12/2014	0	0.5		Yes												X	X	X	X	X
	SED-17338-111214-SMJ-100-04	SW/SED 100-04	11/12/2014	0	0.5		Yes												X	X	X	X	X
	SED-17338-111214-SMJ-100-06	SED 100-05 (Dicth)	11/12/2014	0	0.5		Yes												X	X	X	X	X
	SED-17338-111214-SMJ-100-07	SW/SED 100-07	11/12/2014	0	0.5		Yes												X	X	X	X	X
Operable Unit 6	***SURFACE WATER***																						
AOI 26 - Outfall 001	SW -17338 -091712-SW1-MM-204	SW 1	9/17/2012	-	-				X	X			X										
	SW -17338 -091712-SW2-MM-203	SW 2	9/17/2012	-	-				X	X			X										
	SW -17338 -091712-SW3-MM-202	SW 3	9/17/2012	-	-				X	X			X										
	SW -17338 -091712-SW4-MM-201	SW 4	9/17/2012	-	-				X	X			X										
	SW -17338 -091712-SW5-MM-200	SW 5	9/17/2012	-	-				X	X			X										
	SW-17338-111214-SMJ-100-01	SW/SED 100-01	11/12/2014	-	-								X										
	SW-17338-111214-SMJ-100-02	SW/SED 100-02	11/12/2014	-	-								X										
	SW-17338-111214-SMJ-100-03	SW/SED 100-03	11/12/2014	-	-								X										
	SW-17338-111214-SMJ-100-04	SW/SED 100-04	11/12/2014	-	-								X										
	SW-17338-111214-SMJ-100-06	SW 100-06	11/12/2014										X										
	SW-17338-111214-SMJ-100-07	SW/SED 100-07	11/12/2014	-	-								X										
	SW-17338-111214-SMJ-100-08	SW 100-08 (Outfall)	11/12/2014	-	-								X										
Operable Unit 4	***SOIL GAS***																						
AOI 16 - Petroleum Dispensing Area and Historical USTs	SGA-17338-081712-MM-01	Ambient	8/17/2012	-	-		Yes	X															
	SG4-17338-081712-MM-02	SG4/VAS7	8/17/2012	-	-		Yes	X															
	SG3-17338-081712-MM-03	SG3/VAS5	8/17/2012	-	-		Yes	X															
	SG2-17338-081712-MM-04	SG2/VAS3	8/17/2012	-	-		Yes	X															
	SG7-17338-081712-MM-05	SG2/VAS3	8/17/2012	-	-	SG2-17338-081712-MM-04	Yes	X															
	SG1-17338-081712-MM-06	SG1/VAS1	8/17/2012	-	-		Yes	X															
	SG5-17338-081712-MM-07	SG5/VAS8	8/17/2012	-	-		Yes	X															

TABLE 3.2

SAMPLING SUMMARY
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit / AOI	*Sample ID*	*Location ID*	*Sample Date*	*Start Depth (ft bgs)*	*End Depth (ft bgs)*	*Parent Sample ID (Sample ID of original sample for duplicates, etc.)*	*Laboratory / Confirmatory Analysis*	*TCL VOCs*	*TCL SVOCs*	*TAL Metals*	*PCB*	*Pesticides*	*Dissolved TAL Metals*	*TOTAL LEAD*	*DISSOLVED LEAD*	*TOLUENE*	*DRO*	*GRO*	*Grain Size*	*Total Organic Carbon/Black Carbon*	*Acid Volatile Sulfides*	*Simultaneously Extracted Metals*	*PAH (34 Homologues)*

Notes

Only samples collected by CRA are included on this table.

S - Sample was screened but not submitted for laboratory analysis

S/X - sample was screened and submitted for laboratory analysis

X -Sample was submitted for laboratory analysis

Location BH9-11 was omitted from the sample program due to the fire line repair project

Horizontal Coordinate System - UTM_NAD83

Horizontal Coordinate Datum - DESPC NAD83

Vertical Coordinate Datum - NAVD88

ft amsl - Feet Above Mean Sea Level

ft bgs - Feet Below Ground Surface

NS - Sample was not screened

(1) - There was insufficient volume to collect all parameters on 11/2/11. The well was sampled for VOCs, and TAL total and dissolved metals on 11/2/11. The well was sampled on 11/7/11 for SVOCs, PCBs, and Pesticides.

- Wrong well was sampled This well was sampled inadvertently - MW-10 was supposed to be sampled as part of AOI-18

TABLE 3.3

SUMMARY OF VISUAL OBSERVATIONS AND AOI-19 AND AOI-20
REMDIAL INVESTIGATION
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

AOI Number	*Investigation Area Description* [(1)]	*RACER's Rationale for Further Action*	*Date of Inspection*	*Location/Bay*	*Observation*
AOI 19	Lift Stations (to WWTP)	Conduct visual inspection to evaluate integrity and potential for release.	9/30/2011	DD-28	Concrete berm around station stained, but in good shape
			9/30/2011	S-18	Immediate concrete around station is in good shape. Some staining. Some cracks in surrounding area.
			9/30/2011	S-7	No access due to construction
			9/30/2011	ELPO Area JJ-28	Some staining on south of pad. Some cracking around location.
			9/30/2011	ELPO Area KK-28	Concrete in good shape. Some staining around pumps.
			9/30/2011	Phosphate Area JJ-30	Concrete in good shape. Water staining.
			9/30/2011	Phosphate Area FF-30	Concrete in good shape. No staining.
			9/30/2011	Basement	Lift station in basement consists of an approximately three foot diameter sump with submersible pumps that tranfer water to outside lift station. Pumps in basement are leaking. Some staining present . Equipment is scheduled to be removed and replaced.
			9/30/2011	Weldwater Building	Concrete in good shape. No staining
			9/30/2011	Modular Paint Building QQ-24	Concrete in good shape. Some staining with white edge.
			9/30/2011	Tire Building	Concrete is in good shape. Drain was dry. Water was present in sump.
AOI 20	PCB Containing Equipment/Oil Stained Surfaces	Conduct visual inspection to evaluate the integrity of the concrete beneath in-ground converyors to assess the potential for a release to the environment.	10/12/2011	Modular Paint Building Southwest corner/west side	Concrete in good shape. Staining near VV-18. Conveyors have catch basins at turn around points with absorbent pads (VV-15). VV-13 full of liquid.
			10/12/2011	South End of Mod Paint Building WW-17 and XX-17	Concrete is in good shape and holding liquid. Some staining and sorbent pads on floor surface near by.
			10/12/2011	Modular Clean Room	In-ground conveyors no issues.
			10/12/2011	Main Assembly Area J-28 and G-29	Elevated conveyor system.

TABLE 4.1

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPCs)
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit	*Medium*	*Chemical*	*Minimum Concentration (1,2)*	*Minimum Qualifier*	*Maximum Concentration (1,2)*	*Maximum Qualifier*	*Units*	*Location of Maximum Concentration*	*Detection Frequency*	*Range of Detection Limits*	*Concentration Used for Screening*	*Screening Toxicity Value (2)*		*Table Reference*
OU-3	Surface Soil (0-2')	Benzo(a)pyrene	0.012	J	0.43		mg/kg	AOI 10: MW26-11, 0-2 ftbgs (09/21/11)	2/6	0.036 - 0.041	0.43	0.09	C	A.1
		Antimony	3.3		12.8		mg/kg	AOI 21: BH52-11, 0-2 ftbgs (09/22/11)	2/28	0.5 - 19.8	12.8	3.1	N	
		Arsenic	0.81		17.04		mg/kg	AOI 21: BH52-11, 0-2 ftbgs (09/22/11)	28/28	0.99	17.04	11	C	
		Cobalt	1.4	J	71.9		mg/kg	AOI 21: BH48-11, 0-2 ftbgs (09/21/11)	20/28	1.2 - 313	71.9	34	N	
		Lead	4.2		467		mg/kg	AOI 21: BH52-11, 0-2 ftbgs (09/22/11)	28/28	--	467	400	C	
		Manganese	44.1	J	2808.5		mg/kg	AOI 6: BH7-11, 0-2 ftbgs (10/10/11)	28/28	--	2808.5	2100	N	
		Mercury	0.057		7.63		mg/kg	AOI 5: BH3-11, 0-2 ftbgs (09/15/11)	3/28	0.032 - 6.5	7.63	0.94	N	
		Nickel	2.3	J	167.3		mg/kg	AOI 7: BH57-11, 0-2 ftbgs (09/20/11)	28/28	--	167.3	150	N	
OU-3	Subsurface Soil (2-10')	Antimony	19.8		19.8		mg/kg	AOI 7: BH58-11, 5-7 ftbgs (09/20/11)	1/15	0.7 - 19.8	19.8	3.1	N	A.2
		Arsenic	0.91		34.63		mg/kg	AOI 7: BH58-11, 5-7 ftbgs (09/20/11)	15/15	1.1	34.63	11	C	
		Cobalt	1.3	J	62.3		mg/kg	AOI 21: BH49-11, 7-9 ftbgs (09/21/11)	9/15	0.3 - 313	62.3	34	N	
		Manganese	20		2271.1		mg/kg	AOI 6: BH7-11, 8-10 ftbgs (10/10/11)	15/15	--	2271.1	2100	N	
OU-4	Surface Soil (0-2')	Cobalt	36.7		68.3		mg/kg	AOI 17: BH44-11, 0-2 ftbgs (09/26/11)	3/9	313	68.3	34	N	B.1
		Manganese	229.4		2552.2		mg/kg	AOI 17: BH46-11, 0-2 ftbgs (09/26/11)	9/9	--	2552.2	2100	N	
	Subsurface Soil (2-10')	2-Methylnaphthalene	0.15	J	1.7		mg/kg	AOI 16: BH39-11, 4-5 ftbgs (09/26/11)	2/3	0.36	1.7	1	N	B.2
OU-5	Surface Soil (0-2')	1,4-Dichlorobenzene	5.1		5.1		mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	1/5	0.082 - 0.12	5.1	2.6	C	C.1
		Ethylbenzene	0.26		22		mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	2/5	0.082 - 0.1	22	5.8	C	
		Xylenes (total)	0.059		100		mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	3/5	0.25 - 0.26	100	58	N	
		2-Methylnaphthalene	4.2	J	4.2	J	mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	1/6	0.35 - 0.44	4.2	1	N	
		Benzo(a)pyrene	0.019	J	0.2		mg/kg	AOI 12: BH19-11, 0-2 ftbgs (09/29/11)	4/6	0.035 - 0.87	0.2	0.09	C	
		Naphthalene	22		22		mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	1/6	0.35 - 0.44	22	5	C	
		Antimony	1.7	J	1896		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	14/35	0.1 - 94	1896	3.1	N	
		Arsenic	0.68		3578		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	3578	11	C	
		Barium	54.9		688400		mg/kg	AOI 12: MW29-11, 0-2 ftbgs (09/27/11)	85/85	--	688400	1500	N	
		Cadmium	0.24	J	2946		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	63/82	0.2 - 2.5	2946	7	N	
		Chromium	11.2		25200		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	17.4 - 18	25200	12000	N	
		Cobalt	1.5	J	778		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	29/35	7.1 - 313	778	34	N	
		Copper	2		3200		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	3200	310	N	
		Iron	1.8935		264440		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	264440	74767	N	
		Lead	5.9		35480		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	35480	400	C	
		Manganese	23.6		3130		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	3130	2100	N	
		Mercury	0.045		52.5		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	61/82	0.31 - 6.5	52.5	0.94	N	
		Nickel	3.1	J	468		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	35/35	--	468	150	N	
		Selenium	0.48		177.9		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	8/35	0.05 - 39	177.9	39	N	
		Thallium	0.91		19.1		mg/kg	AOI 12: BH23-11, 0-2 ftbgs (09/27/11)	4/35	0.002 - 13.3	19.1	0.078	N	
		Vanadium	17		383		mg/kg	AOI 12: BH34-11, 0-2 ftbgs (09/29/11)	26/35	0.6 - 56	383	134	N	
		Zinc	11.3		105200		mg/kg	AOI 12: BH27-11, 0-2 ftbgs (09/29/11)	85/85	--	105200	2300	N	
	Subsurface Soil (2-10')	Antimony	1.5	J	13.9		mg/kg	AOI 12: BH18-11, 7-9 ftbgs (10/03/11)	4/30	0.2 - 19.8	13.9	3.1	N	C.2
		Arsenic	1.12		37		mg/kg	AOI 12: TT-13, 4-6 ftbgs (08/23/12)	54/54	1.2	37	11	C	
		Barium	44.6	J	2443.75		mg/kg	AOI 12: TT-28, 2-4 ftbgs (08/29/12)	54/54	--	2443.75	1500	N	
		Cadmium	0.24	J	22.75		mg/kg	AOI 12: TT-16, 2-4 ftbgs (08/23/12)	31/53	0 - 3.3	22.75	7	N	
		Cobalt	1.3	J	519		mg/kg	AOI 12: BH22-11, 8-10 ftbgs (10/03/11)	27/30	9.6 - 313	519	34	N	
		Copper	4.4	J	311.75		mg/kg	AOI 12: TT-16, 2-4 ftbgs (08/23/12)	54/54	--	311.75	310	N	
		Iron	5210		123620		mg/kg	AOI 12: BH22-11, 8-10 ftbgs (10/03/11)	54/54	--	123620	74767	N	
		Lead	4.4		808.75		mg/kg	AOI 12: TT-27, 4-6 ftbgs (08/29/12)	52/54	2.7 - 6.6	808.75	400	C	
		Manganese	27.3		11074		mg/kg	AOI 12: BH22-11, 8-10 ftbgs (10/03/11)	54/54	--	11074	2100	N	

TABLE 4.1

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPCs)
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit	*Medium*	*Chemical*	*Minimum Concentration (1,2)*	*Minimum Qualifier*	*Maximum Concentration (1,2)*	*Maximum Qualifier*	*Units*	*Location of Maximum Concentration*	*Detection Frequency*	*Range of Detection Limits*	*Concentration Used for Screening*	*Screening Toxicity Value (2)*		*Table Reference*
OU-5	Subsurface Soil (2-10') (continued)	Mercury	0.027	J	6.5		mg/kg	AOI 12: TT-34, 2-4 ftbgs (08/30/12)	30/53	0.036 - 6.5	6.5	0.94	N	
		Vanadium	15.5		198		mg/kg	AOI 12: BH22-11, 8-10 ftbgs (10/03/11)	29/30	56	198	134	N	
OU-6	Surface Soil	Benzo(a)pyrene	0.005	J	0.1		mg/kg	Station-001, 0-2 ftbgs (10/02/14)	12/16	0.038 - 0.047	0.1	0.09	C	D.1
		Antimony	1.9	J	14	J	mg/kg	Station-009, 0-2 ftbgs (10/02/14)	6/10	2.1 - 2.4	14	3.1	N	
		Lead	20.3	J	709	J	mg/kg	Station-009, 0-2 ftbgs (10/02/14)	16/16	--	709	400	C	
	Sediment	2-Methylnaphthalene	0.59	J	1.5	J	mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	3/12	0.39 - 0.49	1.5	1	N	D.2
		Benzo(a)anthracene	0.046		47		mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	10/12	0.04 - 0.041	47	0.9	C	
		Benzo(a)pyrene	0.042	J	39		mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	11/12	0.041	39	0.09	C	
		Benzo(b)fluoranthene	0.071		50		mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	10/12	0.04 - 0.041	50	0.9	C	
		Benzo(g,h,i)perylene	0.032	J	29	J	mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	9/12	0.4 - 0.47	29	1 (5)	N	
		Benzo(k)fluoranthene	0.025	J	26		mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	9/12	0.039 - 0.041	26	9	C	
		Dibenz(a,h)anthracene	0.012	J	4.8		mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	8/12	0.039 - 0.047	4.8	0.09	C	
		Indeno(1,2,3-cd)pyrene	0.023	J	33	J	mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	10/12	0.04 - 0.041	33	0.9	C	
		Antimony	1.5	J	10.5		mg/kg	SED 3, 0-0.5 ftbgs (10/05/11)	3/12	2.2 - 2.7	10.5	3.1	N	
		Copper	3.6	J	394		mg/kg	SED 3, 0-0.5 ftbgs (10/05/11)	8/12	5.4 - 7.1	394	310	N	
		Lead	2.2		526		mg/kg	SED 3, 0-0.5 ftbgs (10/05/11)	12/12	--	526	400	C	
		Zinc	11.1		2370		mg/kg	SED 3, 0-0.5 ftbgs (10/05/11)	12/12	--	2370	2300	N	
		TPH (C10-C28) DRO	310		7400	J	mg/kg	SED 4, 0-0.5 ftbgs (10/05/11)	4/7	33 - 42	7400	1000	N	
	Surface Water	Manganese	41.3		76.7		µg/L	SW1 (09/17/12)	5/5	--	76.7	43	N	D.3
		Manganese	31.7		80.1		µg/L	SW4 (09/17/12)	5/5	--	80.1	43	N	
Site Wide	Groundwater	1,1-Dichloroethane	0.21	J	7.8		µg/L	MW-26 (10/31/11)	6/78	1 - 5	7.8	2.7	C	E.1
		1,2,4-Trimethylbenzene	0.14	J	2800	E	µg/L	VAS-3 (08/08/12)	25/38	1	2800	1.5	N	
		1,2-Dichloroethane	0.3	J	31		µg/L	MW-36D (10/23/12)	17/78	1 - 5	31	0.17	C	
		1,4-Dichlorobenzene	0.26	J	1.2		µg/L	VAS-1 (08/08/12)	5/78	1 - 5	1.2	0.48	C	
		2-Hexanone	1.4	J	19	J	µg/L	MW36S (09/18/13)	7/78	5 - 25	19	3.8	N	
		Benzene	0.12	J	860		µg/L	MW36S (09/18/13)	56/78	1	860	0.45	C	
		Carbon tetrachloride	0.074	J	13		µg/L	VAS-10 (09/11/12)	6/78	1 - 5	13	0.45	C	
		Chloroform (Trichloromethane)	0.15	J	24		µg/L	VAS-10 (09/11/12)	11/78	1 - 5	24	0.22	C	
		cis-1,2-Dichloroethene	0.32	J	9.2		µg/L	MW-29 (11/01/11)	9/78	1 - 5	9.2	3.6	N	
		Ethylbenzene	0.11	J	2400		µg/L	VAS-3 (08/08/12)	46/78	1	2400	1.5	C	
		Isopropyl benzene	0.097	J	130		µg/L	VAS-3 (08/08/12)	46/78	1	130	45	N	
		Tetrachloroethene	0.13	J	8.9		µg/L	BH10-11 (09/16/11)	16/78	1 - 5	8.9	1	N	
		Toluene	0.17	J	6100		µg/L	VAS-3 (08/08/12)	47/78	1	6100	110	N	
		Trichloroethene	0.16	J	9.5		µg/L	VAS-10 (09/11/12)	14/78	1 - 5	9.5	0.28	C	
		Xylenes (total)	0.48	J	13000		µg/L	VAS-3 (08/08/12)	47/78	3	13000	19	N	
		2-Methylnaphthalene	3.6	J	180		µg/L	MW36S (09/18/13)	3/30	10 - 12	180	3.6	N	
		Biphenyl (1,1-Biphenyl)	8.6	J	11		µg/L	MW36S (09/18/13)	2/30	10 - 12	11	0.083	N	
		Dibenzofuran	3	J	3.8	J	µg/L	MW36S (09/18/13)	2/30	10 - 12	3.8	0.79	N	
		Naphthalene	4.8	J	270		µg/L	MW-36S (10/22/12)	6/30	10 - 12	270	0.17	C	
		Aluminum	103	J	35300		µg/L	BH11-11 (09/16/11)	22/23	200	35300	2000	N	
		Arsenic	3.9	J	7.9		µg/L	MW-28 (11/02/11)	9/23	5	7.9	0.052	C	
		Barium	70.1	J	1390		µg/L	MW-29 (11/01/11)	23/23	--	1390	380	N	
		Cobalt	3.1	J	139		µg/L	MW-36S (10/22/12)	15/23	50	139	0.6	N	
		Iron	83	J	78400		µg/L	MW-29 (11/01/11)	21/23	150	78400	1400	N	
		Lead	2.9	J	14.3		µg/L	BH11-11 (09/16/11)	5/24	5 - 12.2	14.3	5	C	
		Manganese	5.8	J	30400		µg/L	MW-30 (11/01/11)	21/23	15	30400	43	N	
		Vanadium	2.2	J	53.5		µg/L	BH11-11 (09/16/11)	17/23	50	53.5	8.6	N	
		Arsenic (dissolved)	3.9	J	5.7		µg/L	MW-105 (10/11/12)	4/23	5	5.7	0.052	C	
		Barium (dissolved)	48.7	J	1030		µg/L	MW-29 (11/01/11)	23/23	--	1030	380	N	

TABLE 4.1

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPCs)
FORMER GM WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Operable Unit	*Medium*	*Chemical*	*Minimum Concentration (1,2)*	*Minimum Qualifier*	*Maximum Concentration (1,2)*	*Maximum Qualifier*	*Units*	*Location of Maximum Concentration*	*Detection Frequency*	*Range of Detection Limits*	*Concentration Used for Screening*	*Screening Toxicity Value (2)*		*Table Reference*
Site Wide	Groundwater (continued)	Cobalt (dissolved)	5.7	J	124		µg/L	MW-36S (10/22/12)	12/23	50	124	0.6	N	
		Iron (dissolved)	61.5	J	47500		µg/L	MW-29 (11/01/11)	12/23	150	47500	1400	N	
		Lead (dissolved)	4.1	J	5.7		µg/L	BH36-11 (09/16/11)	2/24	5	5.7	5	C	
		Manganese (dissolved)	23.5		29100		µg/L	MW-36S (10/22/12)	19/23	15	29100	43	N	
		Selenium (dissolved)	4.9	J	13.1		µg/L	MW-29 (10/18/12)	5/23	10 - 30	13.1	10	N	
		Vanadium (dissolved)	4.5	J	13.3	J	µg/L	MW-105 (11/02/12)	6/23	50	13.3	8.6	N	
		Aroclor-1260 (PCB-1260)	2.4		3.5		µg/L	BH11-11 (09/16/11)	2/19	0.51 - 0.67	3.5	0.039	C	
Off-Site	Groundwater	1,2,4-Trimethylbenzene	480		790		µg/L	DA-MW42 (09/18/13)	3/24	1	790	1.5	N	F.1
		Benzene	0.79	J	6.4		µg/L	DA-MW47 (09/17/13)	5/44	1 - 5	6.4	0.45	C	
		Chloroform (Trichloromethane)	0.097	J	2.7		µg/L	DA-MW40 (06/28/13)	11/44	1 - 5	2.7	0.22	C	
		Ethylbenzene	0.11	J	750		µg/L	DA-MW42 (03/26/13)	14/44	1	750	1.5	C	
		Isopropyl benzene	0.23	J	54		µg/L	DA-MW42 (03/26/13)	12/44	1	54	45	N	
		Methyl tert butyl ether (MTBE)	0.14	J	12		µg/L	DA-MW46 (06/27/13)	13/44	1 - 5	12	10	C	
		Toluene	0.2	J	330		µg/L	DA-MW42 (03/26/13)	14/44	1	330	110	N	
		Xylenes (total)	0.15	J	1300		µg/L	DA-MW41 (03/26/13, 09/18/13)	13/44	3	1300	19	N	
		2-Methylnaphthalene	7.6	J	29		µg/L	DA-MW42 (09/18/13)	9/44	10 - 11	29	3.6	N	
		Naphthalene	3	J	220		µg/L	DA-MW42 (09/18/13)	10/44	10 - 11	220	0.17	C	

Notes:

C Carcinogenic; analyte considered to be a carcinogen
N Non-Carcinogenic; analyte considered to be a non-carcinogen
-- Not Available
J Result is an estimated value

(1) Minimum/maximum detected concentration
(2) DNREC-SIRS Screening Level Table - Soil, Department of Natural Resources and Environmental Control, Division of Waste and Hazardous Substance, Site Investigation & Restoration Section, Delaware DNREC, October 2014
DRO Diesel Range Organics
TPH Total Petroleum Hydrocarbons

TABLE 6.1

AOI-18 GROUNDWATER SAMPLE RESULTS
REMEDIAL INVESTIGATION REPORT
FORMER WILMINGTON ASSEMBLY PLANT
WILMINGTON, DELAWARE

Sample Location:			***MW-10***	***MW-15***	***MW-15***	***MW-11***	***MW-11***
AOI Location			***AOI_18***	***AOI_18***	***AOI_18***	***AOI_18***	***AOI_18***
			On-site	***On-site***	***On-site***	***On-site***	***On-site***
Sample ID:			***WG-17338-101112-MW10-MM-255***	***GW-17338-110311-MW15-17***	***WG-17338-101112-MW15-MM-256***	***GW-17338-110711-MW11-18***	***WG-17338-101112-MW11-MM-254***
Sample Date:			***10/11/2012***	***11/3/2011***	***10/11/2012***	***11/7/2011***	***10/11/2012***
						-	**-**
Parameters	***Units***	***WG Criteria***					
Metals							
Lead	µg/L	5	5.0 U	5.0 U	5.0 U	-	-
Lead (dissolved)	µg/L	5	5.0 U	3.2 J	5.0 U	-	-
Toluene	µg/L	86	-	-	-	4.4	37

Notes:

Criteria - DNREC SIRS Screening Table Updated January 2014
J - Estimated concentration
U - Not detected at the associated reporting limit
- Not analyzed